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STATISTICS OF PAPER, PAPERBOARD & WOOD PULP

Data through 1990

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FOREWORD

The American Paper Institute is pleased to present the twenty-ninth edition of its **Statistics of Paper, Paperboard and Wood Pulp.**

This report presents a comprehensive up-to-date statistical base of annual data on the Paper, Paperboard and Wood Pulp industries, together with additional information on the entire Paper and Allied Products industry group.

Data on paper, paperboard and wood pulp production, imports, exports, consumption, capacity and price indexes, by major grade, are supplemented with tables showing fibrous materials consumption, industry patterns of employment and wage rates, energy consumption and financial trends. Also included is an analysis of the demand for paper and paperboard, by major grade, based on real gross national product.

The tables are grouped into four functional sections: production and related data, regional data, input trends and financial information. Supplemental tables show production, imports, exports and new supply of wet machine board and construction paper and paperboard. We have added two new tables: one showing raw material and labor input costs, the other summarizing some basic industry trends.

Tabular information in this report is complemented by graphs illustrating changes in the growth and structure of the paper, paperboard and wood pulp industries.

Comments or suggestions for improvement of this report are welcomed, and should be directed to Dr. Benjamin Slatin, who is responsible for its preparation.

September 1991

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SECTION I

PRODUCTION AND RELATED DATA

Highlights of 1990

For the fifth consecutive year, production of paper and paperboard reached a new high: the 1990 total of 78,782,000 tons reported in Table IA was 2.6% above its year-earlier level as paper rose 2.9% and paperboard 2.3%.

Although the rise in total industry production kept pace with the rise in overall capacity, 1990 was not a boom year for the industry. Operating rates in both the paper and paperboard sectors were fractionally higher than they were in 1989, yet the industry encountered difficult market conditions (See Section IV).

All the major sectors of the paper and paperboard groups reported year-to-year increases. Newsprint production was up 8.6% as new capacity -- much of it based on recovered waste paper -- came on line in those regions where demand was most intense. Consumption of newsprint rose only modestly (see Table VIII) as newsprint imports fell (Table XXIV).

The 3.4% increase in printing-writing paper shipments stemmed from a variety of market conditions: coated paper users stabilized their inventories, direct mail and newspaper insert advertising gained, while demand for office copy papers continued its long-term rise.

Among the paperboard grades, the containerboard grades contributed the major source of strength, consistent with new highs in shipments of fibre boxes. Containerboard producers continued to increase their use of recovered paper: consumption in 1990 was 10% above that in 1989.

The graphs included in this section depict some of the major structural changes in paper, paperboard and wood pulp industries.

Tables

The tables in this section present detailed data on production, imports, exports, new supply, capacity and value of shipments of paper and paperboard products, together with analyses of demand for paper and paperboard, by major grade, relative to real GNP. A table on wood pulp capacity is also included.

TABLE I

PAPER AND PAPERBOARD

(Includes Wet Machine Board and Construction Grades)

PRODUCTION, IMPORTS, EXPORTS AND NEW SUPPLY

1899 - 1990

YEAR	PRODUCTION	IMPORTS (Incl. Products)	EXPORTS (Incl. Products)	NEW SUPPLY*	POPULATION	PER CAPITA NEW SUPPLY	REAL GROSS NATIONAL PRODUCT	NEW SUPPLY TO REAL GNP
	Thousand Short Tons				Millions	lbs.	Billions of 1982 $'s	000 Tons Per $ Billion
1899	2,168	--	--	2,168	74.9	57.9	--	--
1919	5,966	708	421	6,253	105.1	119.0	--	--
1929	11,140	2,534	262	13,412	121.8	220.2	709.6	18.90
1934	9,187	2,265	163	11,289	126.5	178.5	536.7	21.03
1939	13,510	2,687	249	15,948	131.0	243.5	716.6	22.26
1944	17,183	2,576	314	19,445	138.9	280.0	1,330.6	14.61
1949	20,098	4,752	367	24,483	149.7	327.1	1,109.0	22.08
1954	26,411	5,165	682	30,894	163.0	379.1	1,416.2	21.81
1959	33,748	5,517	906	38,359	177.8	431.4	1,629.1	23.55
1964	40,961	6,209	1,694	45,476	191.9	474.0	1,973.3	23.05
1965	43,455	6,585	1,770	48,270	194.3	496.9	2,087.6	23.12
1966	46,701	7,358	1,942	52,117	196.6	530.2	2,208.3	23.60
1967	46,568	6,952	2,085	51,435	198.7	517.7	2,271.4	22.64
1968 R	50,146	6,842	2,625	54,363	200.7	541.7	2,365.6	22.98
1969 R	52,927	7,258	2,749	57,436	202.7	566.7	2,423.3	23.70
1970	51,670	7,115	2,817	55,968	205.1	545.8	2,416.7	23.16
1971	53,162	7,406	3,118	57,450	207.7	553.2	2,484.8	23.12
1972	57,434	7,676	3,069	62,041	209.9	591.1	2,608.5	23.78
1973	59,900	8,131	3,027	65,004	211.9	613.5	2,744.1	23.69
1974	59,040	8,065	3,797	63,308	213.9	591.9	2,729.3	23.20
1975	50,976	6,253	3,116	54,113	216.0	501.0	2,695.0	20.08
1976	58,329	7,142	3,457	62,014	218.0	568.9	2,826.7	21.94
1977	60,040	7,432	3,230	64,243	220.2	583.4	2,958.6	21.71
1978	62,047	9,113	3,373	67,787	222.6	609.0	3,115.2	21.76
1979	64,345	9,123	3,672	69,796	225.1	620.1	3,192.3	21.86
1980	63,600	8,780	5,214	67,166	227.8	589.7	3,187.2	21.07
1981	64,259	8,339	4,641	67,957	230.1	590.7	3,248.7	20.92
1982 **	60,952	8,024	4,246	64,730	232.5	556.8	3,166.0	20.45
1983 **	66,749	8,986	4,569	71,166	234.8	606.2	3,279.1	21.70
1984 **	70,248	11,075	4,387	76,936	237.0	649.3	3,501.4	21.97
1985 R**	68,683	11,522	4,071	76,133	239.3	636.3	3,618.7	21.04
1986 **	72,505	11,936	4,687	79,755	241.6	660.2	3,717.9	21.45
1987 R**	75,949	12,837	5,304	83,482	243.9	684.6	3,845.3	21.71
1988 R**	78,085	13,110	5,691	85,504	246.3	694.3	4,016.9	21.29
1989 R**	78,356	13,100	6,300	85,156	248.8	684.5	4,117.7	20.68
1990 P**	80,352	13,147	6,796	86,703	249.6	694.7	4,157.3	20.86

SOURCE: Production: - 1899 - 1954 - Department of Commerce, Bureau of the Census.
Production - 1959-1990 - American Paper Institute. Imports and Exports - Department of Commerce, Bureau of Census.
Population - Department of Commerce, Bureau of Census. Real Gross National Product - Department of Commerce, B. E. A.
All calculations by American Paper Institute.

NOTE: Production, Imports and Exports, 1899 - 1944, include Hard Pressed Board.
Population data include Armed Forces overseas.

* New Supply = Production plus Imports less Exports; includes imports and exports of products.

** Includes API estimate for construction and wet machine board grades: 1982 - 1,662,000 tons; 1983 & 1984 - 1,800,000 tons; 1985 - 1,700,000 tons; 1986 - 1,600,000 tons; 1987 - 1,590,000 tons; 1988 - 1,500,000 tons; 1989 - 1,570,000 tons; 1990 - 1,570,000 tons.

Chart 1

PAPER AND PAPERBOARD

(Incl. Wet Machine Board & Construction Grades)

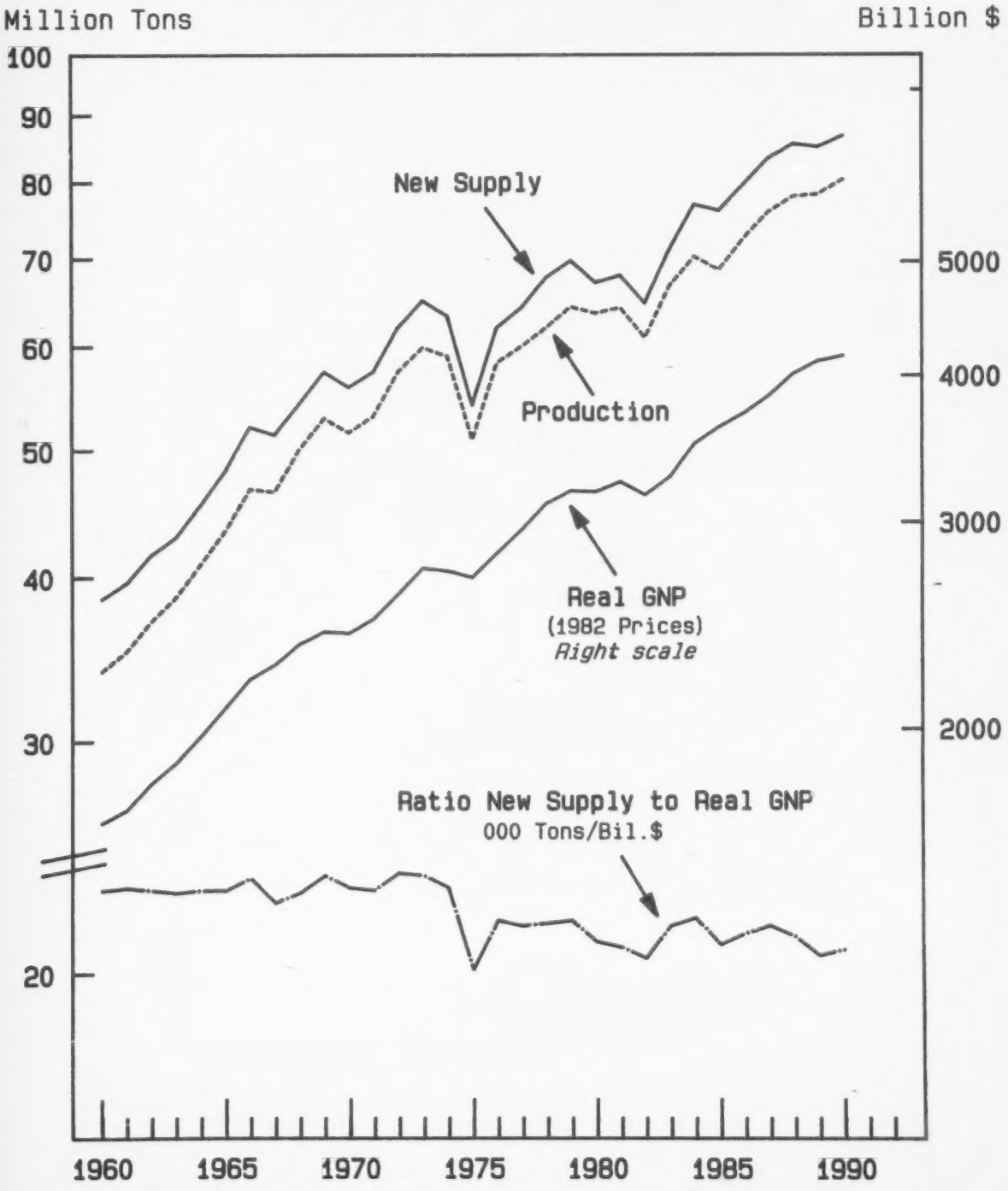


TABLE IA

PAPER AND PAPERBOARD

PRODUCTION, IMPORTS, EXPORTS AND NEW SUPPLY

1959 - 1990

YEAR	PRODUCTION	IMPORTS (Incl. Products)	EXPORTS	NEW SUPPLY*	POPULATION	PER CAPITA NEW SUPPLY	REAL GROSS NATIONAL PRODUCT	RATIO TO NEW SUPPLY TO REAL GNP
		Thousand Short Tons			Millions	lbs.	Billions of 1982 $'s	000 Tons Per $ Billion
1959	30,997	5,484	874	35,607	177.8	400.5	1,629.1	21.86
1960	31,221	5,611	990	35,842	180.7	396.7	1,665.3	21.52
1961	32,548	5,663	1,174	37,037	183.7	403.2	1,708.7	21.68
1962	34,408	5,719	1,154	38,973	186.5	417.9	1,799.4	21.66
1963	35,913	5,637	1,302	40,248	189.2	425.5	1,873.3	21.49
1964	38,066	6,154	1,660	42,560	191.9	443.6	1,973.3	21.57
1965	40,489	6,545	1,737	45,297	194.3	466.3	2,087.6	21.70
1966	43,904	7,327	1,904	49,327	196.6	501.8	2,208.3	22.34
1967	43,745	6,917	2,054	48,608	198.7	489.3	2,271.4	21.40
1968 R	47,085	6,793	2,587	51,291	200.7	511.1	2,365.6	21.68
1969 R	49,824	7,209	2,703	54,330	202.7	536.1	2,423.3	22.42
1970	48,719	7,057	2,779	52,997	205.1	516.8	2,416.7	21.93
1971	49,741	7,319	3,076	53,984	207.7	519.8	2,484.8	21.73
1972	53,842	7,567	3,020	58,389	209.9	556.3	2,608.5	22.38
1973	56,346	8,019	2,966	61,399	211.9	579.5	2,744.1	22.37
1974	55,756	7,970	3,720	60,006	213.9	561.1	2,729.3	21.99
1975	47,997	6,164	3,050	51,111	216.0	473.2	2,695.0	18.96
1976	54,993	7,042	3,388	58,647	218.0	538.0	2,826.7	20.75
1977	56,656	7,294	3,171	60,779	220.2	551.9	2,958.6	20.54
1978	58,571	8,781	3,301	64,051	222.6	575.5	3,115.2	20.56
1979	61,070	8,738	3,610	66,198	225.1	588.2	3,192.4	20.74
1980	61,042	8,304	5,148	64,198	227.8	563.6	3,187.1	20.14
1981	62,109	7,941	4,561	65,489	230.1	569.2	3,248.7	20.16
1982	59,290	7,603	4,187	62,706	232.5	539.4	3,166.0	19.81
1983	64,949	8,509	4,502	68,956	234.8	587.4	3,279.1	21.03
1984	68,448	10,576	4,310	74,714	237.0	630.5	3,501.4	21.34
1985 R	66,983	11,105	4,003	74,085	239.3	619.2	3,618.7	20.47
1986	70,905	11,597	4,593	77,909	241.6	644.9	3,717.9	20.96
1987 R	74,359	12,528	5,197	81,690	243.9	669.9	3,845.3	21.24
1988 R	76,585	12,788	5,559	83,814	246.3	680.6	4,016.9	20.87
1989 R	76,786	12,910	6,264	83,432	248.8	670.7	4,117.7	20.26
1990 P	78,782	13,006	6,787	85,002	249.6	681.1	4,157.3	20.45

SOURCE: See Table I.

NOTE: All data exclude wet machine board, building paper and insulating board.

* New Supply = Production plus Imports less Exports.

R = Revised P = Preliminary

Chart 2

PAPER AND PAPERBOARD

(Excl. Wet Machine Board & Construction Grades)

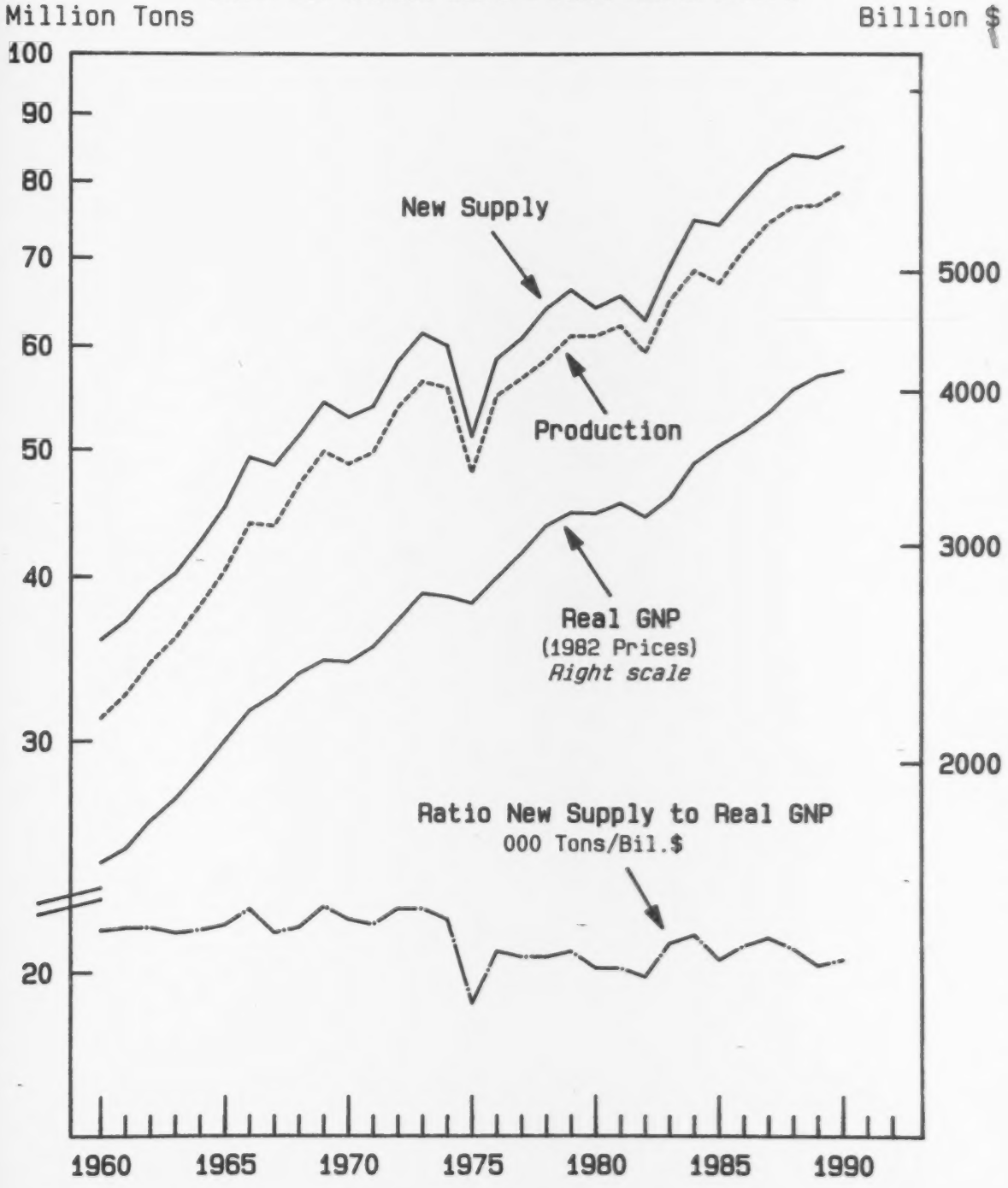


Chart 3

UNITED STATES PAPER PRODUCTION

Millions of short tons

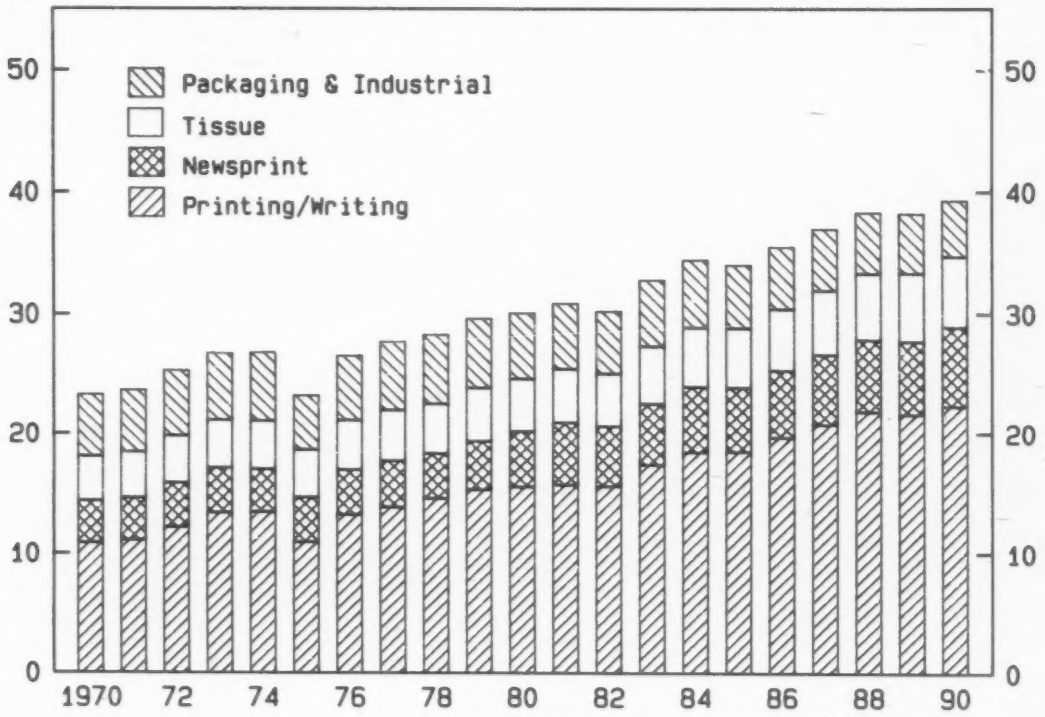


Chart 4

UNITED STATES PAPERBOARD PRODUCTION

Millions of short tons

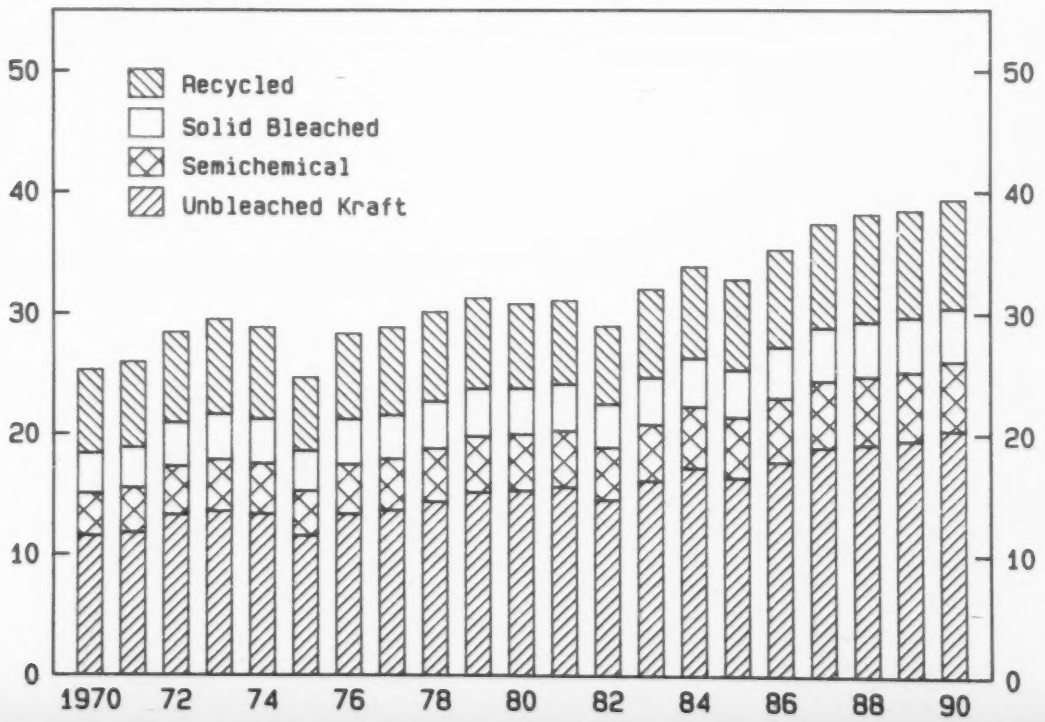


Chart 5

CHANGES IN THE STRUCTURE OF THE PAPER INDUSTRY

Percent of Total Paper Production

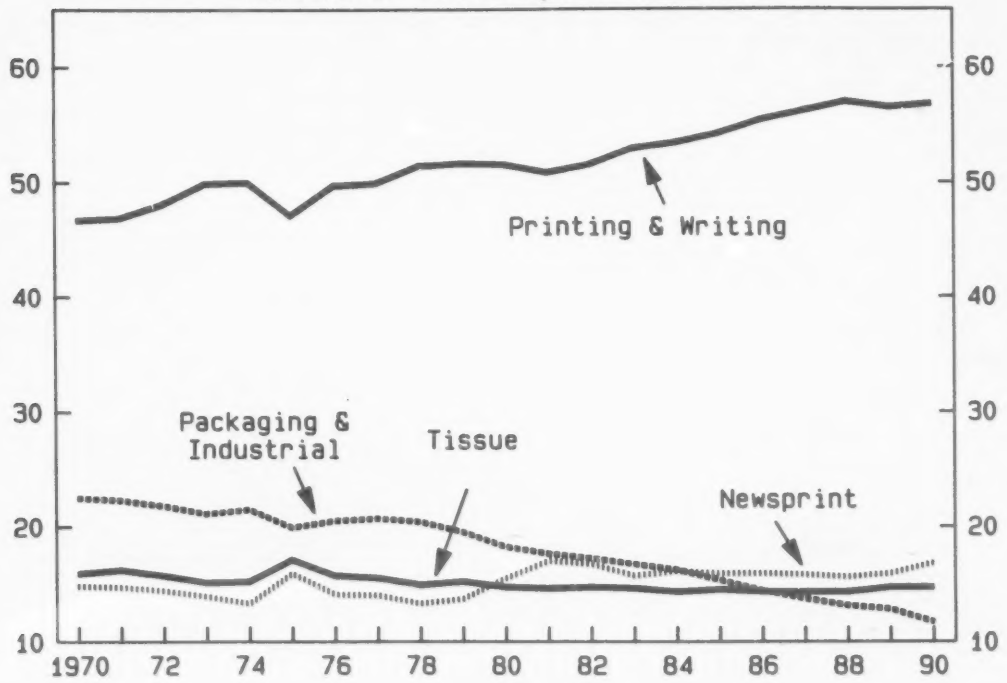


Chart 6

PERCENT OF U.S. NEWSPRINT CONSUMPTION PRODUCED IN THE U.S. AND CANADA

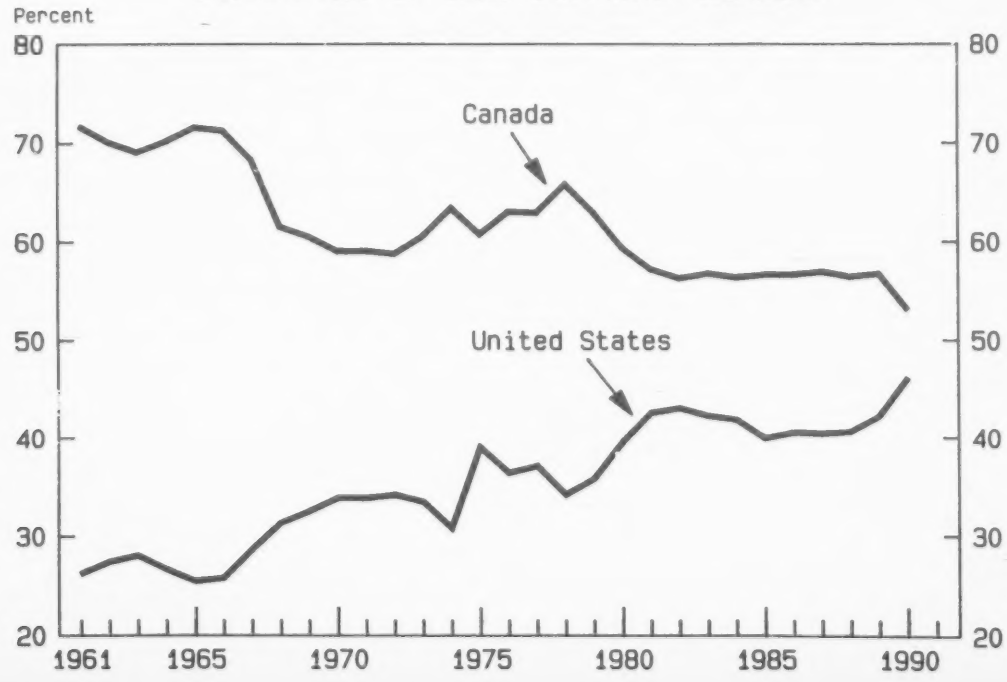


TABLE II

TOTAL PAPER SHIPMENTS

1963 – 1990

(Thousands of Tons)

	1963	1964	1965	1966	1967	1968	1969
TOTAL PAPER, ALL GRADES	17,319.4	18,111.7	19,157.0	20,724.9	20,925.6	22,181.1 RS	23,448.7
Newsprint Production	2,218.0	2,261.0	2,245.0	2,483.0	2,709.0	3,045.0	3,362.0
Total Printing–Writing Papers	8,183.5	8,667.9	9,337.5	10,318.4	10,121.9	10,481.5	11,139.1
Uncoated Groundwood	956.4	995.4	974.0	1,088.3	1,019.6	1,090.3	1,094.9
Publishing and Printing	806.7	837.2	814.0	876.4	806.4	883.3	914.0
Converting	149.7	158.2	160.0	211.9	213.2	207.0	180.9
Coated Papers	2,425.2	2,608.3	2,814.2	3,087.6	3,086.4	3,100.5 RS	3,306.4
Uncoated Free Sheet Papers	3,634.1	3,847.5	4,216.0	4,691.9	4,577.0	4,787.7	5,182.9
Bond and Writing	470.0	499.2	555.9	620.8	613.9	627.1	718.0
Form Bond	375.0	420.0	490.0	575.0	600.0	570.9	688.7
Ledger	45.1	43.0	46.6	49.1	47.5	54.6	51.1
Mimeograph	110.9	116.5	117.3	125.4	122.7	134.9	132.6
Duplicating	116.0	117.3	125.6	134.9	141.9	160.9	172.5
Manifold	17.4	15.5	19.9	20.2	17.2	14.0	11.0
Papeterie and Wedding	42.9	45.2	45.5	51.7	51.7	56.0	59.9
Carbonless	N.A.	N.A.	N.A.	N.A.	N.A.	50.0	65.0
Opaque Circular	27.3	20.6	22.9	23.8	24.6	23.3	25.0
Other	247.6	261.0	302.2	330.3	344.7	N.A.	N.A.
Cover and Text Papers	155.4	168.1	186.0	194.1	192.2	192.8	200.1
M.F., E.F. & Super Calendered	264.1	240.1	219.3	228.2	209.9	198.2	214.3
Offset	862.3	948.5	1,062.4	1,221.9	1,165.3	1,295.4	1,381.5
White Wove Envelope	318.8	357.3	392.4	412.8	423.0	459.6	461.2
Tablet	281.5	293.7	304.4	346.3	294.6	313.0	320.9
Kraft Envelope Papers: Total	175.2	172.0	194.0	203.7	188.5	186.6	208.8
Brown Kraft – Estimated	85.0	80.0	67.0 E	68.1 E	92.9 E	91.4 E	102.9
Bleached Kraft – Estimated	90.2	92.0	127.0 E	135.6 E	95.6 E	95.2 E	105.9
Other	124.6	129.5	131.6	153.7	139.3	450.4	472.3
Thin Papers	178.7	192.7	211.3	245.4	238.0	261.6	289.0
Cotton Fiber Papers	118.8	117.8	122.3	126.3	124.8	124.0	128.1
Bond and Writing	70.8	72.1	74.8	78.7	74.8	80.5	85.3
Other Business	29.7	28.0	29.0	28.8	30.1	25.2	24.7
Technical and Other	18.3	17.7	18.5	18.8	19.9	18.3	18.1
Bleached Bristols	870.3	906.2	999.7	1,078.9	1,076.1	1,117.4	1,137.8
Tabulating Index	395.5	419.4	478.6	514.4	533.2	534.6	558.7
Tag	164.7	171.5	194.9	196.9	187.4	203.7	193.5
File Folder	58.9	59.6	64.0	71.4	71.0	77.8	76.5
Index Bristol	98.0	97.4	100.6	115.0	105.5	104.4	100.4
Printing Bristol	22.3	22.4	23.4	26.5	24.6	24.0	28.4
Postcard	13.7	10.4	8.8	10.3	8.5	5.2	6.8
Coated Bristol	117.2	125.5	129.4	144.4	145.9	167.7	173.5
Total Packaging and Industrial Papers	4,341.6	4,438.1	4,683.9	4,823.7	4,885.7	5,196.8	5,336.7
Kraft, Glassine, Greaseproof & Veg. Parchment	4,027.2	4,091.7	4,319.1	4,430.1	4,479.2	4,753.0	4,861.7
Unbleached Kraft Papers	3,051.4	3,098.4	3,293.1	3,414.4	3,391.9	3,602.5	3,670.2
Wrapping	354.6	352.2	358.9	370.0	334.7	353.5	327.7
Bag and Sack (Exc. Shipping Sack)	1,270.2	1,326.2	1,447.7	1,548.1	1,631.3	1,713.0	1,797.9
Shipping Sack	880.7	865.9	894.9	884.7	902.5	978.8	983.5
Other Converting	545.9	554.1	591.6	611.6	523.4	557.2	561.1
Bleached Packaging Papers (C)	782.0	797.4	825.4	801.1	891.2	942.8	975.1
Wrapping	191.4	191.7	207.4	208.4	217.7	210.5	229.3
Bag and Sack (Exc. Shipping Sack)	130.4	138.5	163.1	171.6	185.5	207.8	227.3
Shipping Sack	67.0	75.2	72.0	73.7	89.1	88.7	99.8
Other Converting	393.2	392.0	382.9	347.4	398.9	435.8	418.7
Glassine, Greprf. and Veg. Parch. (C)	193.8	195.9	200.6	214.6	196.1	207.7	216.4
Special Industrial Papers (C)	314.4	344.4	364.8	393.6	386.5	445.8	475.0
Total Tissue Papers (C)	2,576.3	2,746.7	2,890.6	3,099.8	3,229.0 2/	3,455.8 2/	3,610.9 2/
Total Sanitary Tissue Stock	2,340.3	2,515.7	2,651.4	2,847.5	2,978.9	3,217.1	3,368.7
Toilet Tissue	1,054.6	1,107.2	1,120.9	1,169.9	1,171.0	1,273.1	1,274.7
Facial Tissue Stock	278.4	327.4	327.2	337.5	349.1	349.8	386.4
Napkin Stock	261.3	266.1	287.3	332.8	347.3	374.7	377.8
Towelling*	662.9	723.1	816.4	897.7	987.8	1,077.7	1,130.9
Wiper Stock*	33.1	38.4	40.1	49.1	48.9	50.3	58.8
Other Sanitary Tissue*	50.0	53.5	59.5	60.5	72.8	91.5	134.1
Total All Other Tissue	236.0	231.0	239.2	252.3	252.1	238.7	242.2

SOURCE: American Paper Institute, C – Current Industrial Reports, Pulp, Paper and Board. * Revised by API E – Est. RS – Revised Series

TABLE II (Cont.)

TOTAL PAPER SHIPMENTS

1963 – 1990

(Thousands of Tons)

	1970	1971	1972	1973	1974		1975	1976
TOTAL PAPER, ALL GRADES	23,351.2	23,722.2	25,358.5	26,797.3	26,862.7		23,260.3	26,577.4
Newsprint Production	3,464.0	3,476.0	3,656.0	3,738.0	3,561.0	#	3,691.0	3,735.9
Total Printing–Writing Papers	10,903.9	11,132.1	12,194.5	13,371.2	13,431.4		10,965.6	13,207.3
Uncoated Groundwood	1,084.6	1,089.2	1,126.0	1,180.9	1,192.4		1,127.2	1,320.6
Publishing and Printing	924.4	929.0	950.9	985.1	1,001.8		947.5	1,066.5
Converting	160.2	160.2	175.1	195.8	190.6		179.7	254.1
Coated Papers	3,239.2	3,191.9	3,483.2	3,779.1	3,775.8		3,155.4	3,933.1
Uncoated Free Sheet Papers	5,090.4	5,350.9	5,953.2	6,673.6	6,755.3		5,328.3	6,452.8
Bond and Writing	698.6	761.5	889.6	1,075.0	1,332.6		1,017.3	1,278.9
Form Bond	722.1	787.1	913.0	1,119.9	1,161.5		950.1	1,164.4
Ledger	48.2	51.5	53.9	62.0	71.0		51.2	57.8
Mimeograph	126.4	125.5	128.2	143.3	128.8		96.2	100.8
Duplicating	165.6	162.9	171.4	182.4	178.4		123.6	136.0
Manifold	9.6	10.7	11.6	12.7	11.7		9.0	12.0
Papeterie and Wedding	53.9	51.9	51.1	57.3	47.3		34.2	47.5
Carbonless	80.0	90.0	105.0	120.0	160.0		140.0	190.0
Opaque Circular	23.6	24.5	26.2	33.6	38.1		26.6	32.6
Other	N.A.	N.A.	N.A.	N.A.	N.A.		N.A.	N.A.
Cover and Text Papers	193.2	181.0	194.4	219.5	213.1		156.2	175.3
M.F., E.F. & Super Calendered	162.1	147.6	128.6	154.6	128.1		66.5	69.3
Offset	1,384.0	1,467.9	1,688.0	1,862.5	1,838.7		1,462.5	1,781.4
White Wove Envelope	466.1	467.6	527.0	570.9	530.6		456.5	519.9
Tablet	342.4	401.3	396.5	305.5	167.5		229.3	299.6
Kraft Envelope Papers: Total	189.6	176.9	189.5	214.0	203.1		163.8	204.0
Brown Kraft – Estimated	95.7	93.7	93.2	106.7	98.3		83.4	101.4
Bleached Kraft – Estimated	93.9	83.2	96.3	107.3	104.8		80.4	102.6
Other	424.8	443.0	479.0	540.4	544.8		345.2	383.1
Thin Papers	287.9	292.3	333.2	358.2	371.8		310.8	348.4
Cotton Fiber Papers	115.4	112.8	119.1	123.7	117.0		94.5	104.2
Bond and Writing	76.5	75.7	81.1	85.5	82.2		67.6	75.8
Other Business	23.4	21.1	22.2	22.8	20.8		16.3	15.8
Technical and Other	15.5	16.0	15.8	15.4	14.0		10.6	12.6
Bleached Bristols	1,086.4	1,095.0	1,179.8	1,255.7	1,219.1		949.4	1,048.2
Tabulating Index	499.6	458.3	465.0	491.2	498.6		372.7	334.3
Tag	184.3	193.5	217.1	220.3	140.1		132.3	177.6
File Folder	72.0	80.9	88.3	87.1	86.9		86.0	92.0
Index Bristol	102.3	106.1	120.9	130.9	181.0		119.0	140.8
Printing Bristol	32.0	32.9	39.2	46.9	52.5		37.9	43.0
Postcard	6.7	6.7	5.7	3.1	0.2		1.3	1.4
Coated Bristol	189.5	216.6	243.6	276.2	279.8		200.2	259.1
Total Packaging and Industrial Papers	5,264.8	5,281.4	5,531.3	5,649.3	5,783.9		4,624.1	5,450.6
Kraft, Glassine, Greaseproof & Veg. Parchment	4,809.7	4,807.1	4,986.5	4,999.2	5,132.6		4,138.4	4,824.0
Unbleached Kraft Papers	3,672.4	3,649.2	3,810.9	3,901.6	4,033.5	RS	3,253.7	3,788.1
Wrapping	296.4	280.3	282.5	272.3	175.3	RS	139.1	150.0
Bag and Sack (Exc. Shipping Sack)	1,927.4	1,929.3	2,014.5	2,006.2	2,130.5	RS	1,924.6	2,106.2
Shipping Sack	953.3	930.4	935.7	1,025.8	1,187.2	RS	838.4	1,004.2
Other Converting	495.3	509.2	578.2	597.3	540.5	RS	351.6	527.7
Bleached Packaging Papers (Census)	934.0	952.1	941.6	867.1	858.6		693.5	828.7
Wrapping	219.6	205.7	204.0	158.1	143.1		115.3	126.4
Bag and Sack (Exc. Shipping Sack)	218.6	234.7	240.8	254.2	245.2		227.8	273.9
Shipping Sack	97.9	101.9	105.1	104.4	130.2		95.3	127.6
Other Converting 1/	397.9	409.8	391.7	350.4	340.1		255.1	300.8
Glassine, Greprf. and Veg. Parch. (Census)	203.3	205.8	234.0	230.5	240.5		191.2	207.2
Special Industrial Papers (Census)	455.1	474.3	544.8	650.1	651.3	RS	485.7	626.6
Total Tissue Papers	3,718.5	3,832.7	3,976.7	4,038.8	4,086.4		3,979.6	4,183.6
Total Sanitary Tissue Stock	3,494.0	3,604.4	3,746.2	3,771.8	3,823.2		3,772.1	3,954.7
Toilet Tissue	1,323.1	1,376.2	1,398.7	1,440.5	1,466.1		1,520.1	1,608.9
Facial Tissue Stock	365.0	341.1	367.2	361.8	356.9		339.8	335.1
Napkin Stock	381.2	394.7	419.3	447.7	442.5		462.1	455.2
Towelling*	1,166.1	1,183.7	1,249.4	1,276.4	1,333.2		1,248.5	1,323.2
Wiper Stock*	55.8	54.9	59.4	61.3	45.3		37.0	46.4
Other Sanitary Tissue*	200.8	253.8	252.2	184.1	179.2		164.8	185.9
Total All Other Tissue	224.5	228.3	230.5	267.0	263.2		207.5	228.9

E – Estimated 1/ Excludes Bleached Kraft Envelope Paper 2/ API data RS – Revised Series # – Basis weight changed from 32 lb. to 30 lb.

TABLE II (Cont.)

TOTAL PAPER SHIPMENTS

1963 – 1990

(Thousands of Tons)

	1977	1978	1979	1980	1981	1982	1983
TOTAL PAPER, ALL GRADES	27,754.3	28,359.1	29,666.2	30,116.3	30,900.8	30,245.0	32,803.0
Newsprint Production	3,870.5	3,767.5	4,061.9	4,672.3	5,238.6	5,041.9	5,167.0
Total Printing–Writing Papers 6/	13,868.6	14,588.3	15,297.4	15,522.0	15,694.3	15,574.9	17,364.7
Uncoated Groundwood	1,359.7	1,354.4	1,509.0	1,498.8	1,471.1	1,470.8	1,530.8
Publishing and Printing	1,082.4	1,061.0	1,186.0	1,178.2	1,113.1	1,123.1	1,187.9
Converting	277.3	293.4	323.0	320.6	358.0	347.7	342.9
Coated Papers	4,210.3	4,399.9	4,472.3	4,621.6	4,892.7	4,991.0	5,715.8
Coated Groundwood	N.A.	N.A.	N.A.	2,664.7	2,778.8	2,950.2	3,340.6
Coated Free Sheet	N.A.	N.A.	N.A.	1,956.9	2,113.9	2,040.8	2,375.2
Uncoated Free Sheet Papers 6/	6,781.5	7,241.6	7,817.1	7,984.2	7,867.4	7,809.3	8,725.7
Bond and Writing	1,353.5	1,424.7	1,578.3	1,789.7	1,694.0	1,768.5	2,057.3
Form Bond	1,208.3	1,330.5	1,449.3	1,491.6	1,580.3	1,510.4	1,687.5
Ledger, Mimeograph and Manifold	161.4	161.7	154.4	151.1	129.4	105.0	110.2
Duplicating	147.0	149.5	153.3	173.6	147.6	139.8	132.1
Papeterie and Wedding	43.6	49.2	56.4	46.2	45.6	42.0	38.7
Carbonless	225.0	250.0	300.0	338.8	375.2	378.7	400.0
Opaque Circular	32.7	39.6	N.A.	N.A.	N.A.	N.A.	N.A.
Cover and Text Papers	189.1	212.1	243.1	238.2	243.0	235.1	276.0
M.F., E.F. & Super Calendered	66.1	69.5	85.9	78.7	77.3	68.7	87.5
Offset	1,889.5	1,920.2	2,155.2	2,071.2	2,018.5	2,017.6	2,209.8
White Wove Envelope	554.4	592.3	634.9	649.9	638.3	638.7	715.1
Tablet	285.4	350.4	320.1	323.1	316.9	345.3	406.1
Kraft Envelope Papers: Total	203.3	230.2	234.4	226.2	221.5	207.8	230.7
Brown Kraft – Estimated	101.1	121.1	115.6	111.7	111.0	102.2	114.2
Bleached Kraft – Estimated	102.2	109.1	118.8	114.5	110.5	105.6	116.5
Other	422.2	461.7	451.8	405.9	379.8	351.7	374.7
Thin Papers	338.7	351.7	371.4	333.0	353.4	297.0	292.4
Cotton Fiber Papers	108.5	114.4	124.6	126.3	125.6	120.2	132.7
Bond and Writing	80.2	84.4	93.1	95.2	95.3	94.8	105.9
Other Business	15.6	16.3	16.6	14.1	13.7	11.0	10.6
Technical and Other	12.7	13.7	14.9	17.0	16.6	14.4	16.2
Bleached Bristols	1,069.9	1,126.3	1,003.0	958.1	984.1	886.6	967.3
Tabulating Index	338.0	310.6	217.0	202.3	152.8	123.2	106.7
Tag	177.1	207.7	208.7	177.7	194.3	188.9	190.9
File Folder	99.3	112.3	127.6	114.0	127.0	121.1	144.8
Index Bristol	135.6	143.4	137.9	147.0	143.4	133.4	140.9
Printing Bristol	46.4	51.3	53.0	52.1	51.1	49.6	55.4
Postcard	1.3	0.6	0.2	0.4	1.4	2.4	1.9
Coated Bristol	272.2	300.4	258.6	264.6	314.1	288.0	326.7
Total Packaging and Industrial Papers	5,729.6	5,788.6	5,786.4	5,483.5	5,450.4	5,190.6	5,482.7
Kraft, Glassine, Greaseproof & Veg. Parchment	5,151.2	5,237.6	5,196.8	4,961.0	4,396.8 2/RS	4,234.0	4,442.5
Unbleached Kraft Papers	3,805.6	3,863.4	3,931.0	3,815.8	3,569.1 RS	3,412.5	3,505.4 3/
Wrapping	156.4	156.3	149.6	115.7	99.1 RS	86.3	93.2
Bag and Sack (Exc. Shipping Sack)	2,099.7	2,224.5	2,225.8	2,269.4	2,207.9 RS	2,209.7	2,287.5
Shipping Sack	1,035.0	990.3	1,085.8	1,033.3	1,014.6 2/	895.1	878.9
Other Converting	514.5	492.3	469.8	397.4	247.5 RS	221.4	245.8
Bleached Packaging Papers (Census)	1,127.0 *	1,115.2 *	1,031.9	943.5	375.8 RS	381.6	429.3
Wrapping	136.1	154.2	118.9	102.6	33.1 2/RS	31.3	31.1
Bag and Sack (Exc. Shipping Sack)	304.1	276.7	250.4	228.6	212.0 2/RS	217.5	235.6
Shipping Sack	106.8	91.6	102.4	92.0	73.9 2/	77.9	88.5
Other Converting 1/	580.0	592.7	560.2	520.3	56.7 RS	54.9	74.1
Glassine, Grapr. and Veg. Parch. (Census)	218.6	259.0	233.9	201.7	451.9 #	439.9 #	507.8
Special Industrial Papers (Census) 6/	578.4	551.0	589.6	522.5	1,053.6 RS	956.6	1,040.2
Total Tissue Papers	4,285.6	4,214.7	4,520.5	4,438.5	4,517.5	4,437.6	4,788.6
Total Sanitary Tissue Stock	4,069.6	4,017.3	4,324.5	4,284.6	4,366.8	4,289.3	4,611.2
Toilet Tissue	1,660.2	1,643.2	1,742.4	1,695.0	1,714.0	1,748.2	1,835.2
Facial Tissue Stock	336.0	329.0	357.9	360.4	369.4	359.3	389.3
Napkin Stock	491.9	493.1	537.2	561.8	577.6	606.1	632.6
Towelling*	1,353.4	1,317.6	1,404.0	1,392.4	1,415.3	1,334.1	1,577.2
Wiper Stock*	43.8	44.8	58.8	58.0	77.5	50.8	N.A.
Other Sanitary Tissue*	184.3	189.6	224.2	227.0	213.0	190.8	276.9
Total All Other Tissue	216.0	197.4	196.0	153.9	150.7	148.3	177.4

RS – Revised Series * Data overstated by about 10% based on 1980 revision of 1979 data

1/ Excludes Bleached Kraft Envelope Paper 2/ API data 6/ Series revised from 1968 to present # Specialty Packaging NA – Not Available

TABLE II (Cont.)

TOTAL PAPER SHIPMENTS

1983 – 1990

(Thousands of Tons)

	1984	1985	R	1986	1987	R	1988	R	1989	R	1990	P
TOTAL PAPER, ALL GRADES	34,446.2	34,060.9		35,550.0	36,916.8		38,352.4		38,265.2		39,359.2	
Newsprint Production	5,538.8	5,427.7		5,630.0	5,842.0		5,982.0		6,088.0		6,610.1	
Total Printing–Writing Papers	18,419.8	18,463.0		19,678.0	20,800.0		21,860.0		21,624.7		22,370.5	
Uncoated Groundwood	1,565.3	1,520.9		1,539.6	1,498.2		1,623.6		1,742.7		1,805.8	
Publishing and Printing	1,252.2	1,229.8		1,212.9	1,197.7		1,373.7		553.8	NS1	597.2	
Converting	313.1	291.1		326.7	300.5		249.9		1,188.9	NS2	1,208.6	
Coated Papers	6,248.9	5,875.1		6,262.7	6,859.6		7,359.0		7,215.4		7,535.9	
Coated Groundwood	3,650.1	3,393.4		3,506.5	3,811.1		4,204.2		4,058.7		4,233.2	
Coated Free Sheet	2,598.8	2,481.7		2,756.2	3,048.5		3,154.8		3,156.7		3,302.7	
Uncoated Free Sheet Papers	9,152.0	9,689.9		10,409.5	10,965.8		11,277.0		11,080.7		11,503.2	
Bond and Writing	2,114.8	2,288.5		2,496.9	2,766.1	R	2,953.1		2,991.3		3,154.2	
Form Bond	1,829.4	1,921.8		2,150.8	2,157.4		2,127.3		2,112.2		2,030.1	
Ledger, Mimeograph and Manifold	100.5	96.4		97.9	87.4		71.1		78.1		69.8	
Duplicating	117.4	101.9		78.4	61.3		45.0		35.3		25.0	
Papeterie and Wedding	42.8	41.4		43.1	40.5		39.8		45.5		57.5	
Carbonless 4/	443.4	495.8		541.3	599.2		684.4		701.7		734.8	
Opaque Circular	N.A.	N.A.		N.A.	N.A.		N.A.		N.A.		N.A.	
Cover and Text Papers	299.2	288.9		310.0	329.1		348.6		441.8	NC	466.3	
M.F., E.F. & Super Calendered	79.2	77.4		83.5	74.5		86.0		83.1		95.4	
Offset	2,396.4	2,469.1		2,633.6	2,818.5		2,917.9		2,627.6	NC	2,756.8	
White Wove Envelope	773.7	789.3		867.1	916.2		942.5		923.1		992.7	
Tablet	299.2	443.2		411.5	424.5		378.6		367.2		400.9	
Kraft Envelope Papers: Total	237.4	234.7		254.1	255.9		268.9		233.9		249.3	
Brown Kraft – Estimated	113.8	125.4		132.5	131.8		144.3		127.8		136.7	
Bleached Kraft – Estimated	123.6	109.3		121.6	124.1		124.6		106.1		112.6	
Other	418.6	441.5		441.5	435.2		413.8		449.9		470.3	
Thin Papers	303.4	263.0		270.7	262.0		281.0		262.0	R	217.7	
Cotton Fiber Papers	147.2	144.1		152.0	162.8		169.3		160.8		155.4	
Bond and Writing	119.4	117.4		125.4	136.1		140.2		131.1		129.9	
Other Business	8.8	8.7		7.2	7.3		7.4		6.5		4.7	
Technical and Other	19.0	18.0		19.4	19.4		21.7		23.2		20.7	
Bleached Bristols	1,003.0	970.0		1,043.5	1,051.6		1,150.1		1,163.1		1,152.5	
Tabulating Index	67.6	70.0		60.0	50.0		40.0		35.0		30.9	
Tag	196.7	177.8	R	186.6	184.1		185.7		175.2		156.8	
File Folder	140.9	165.8	R	179.8	194.2		213.5		221.1		221.5	
Index Bristol	146.3	146.5	R	147.7	144.2		152.7		145.6		141.0	
Printing Bristol	56.6	57.4		59.7	62.6		67.4		67.1		70.2	
Postcard	2.8	3.2		5.8	5.4		3.2		5.3		6.1	
Coated Bristol	392.1	349.3		403.9	411.1		487.6		513.8		527.1	
Total Packaging and Industrial Papers	5,567.0	5,229.7		5,147.4	4,973.9		5,034.3		4,917.0		4,576.2	
Kraft, Glassine, Greaseproof & Veg. Parchment	4,474.7	4,187.2		4,061.3	3,791.8		3,823.2		3,669.4		3,423.6	
Unbleached Kraft Papers	3,519.5	3,246.1		3,115.5	2,839.8		2,901.0		2,682.1		2,376.5	
Wrapping	90.5	86.0		89.0	79.9		83.3	R	97.3		75.3	
Bag and Sack (Exc. Shipping Sack)	2,290.9	2,115.3		2,048.4	1,763.6	R	1,684.6	R	1,658.5	R	1,358.1	
Shipping Sack	883.3	796.8		747.4	784.3	R	840.4	R	772.2	R	770.0	
Other Converting	254.8	248.0		230.7	212.0	R	192.7		154.1	R	173.1	
Bleached Packaging Papers	454.2	436.8		435.6	406.7		465.2		467.7		483.7	
Wrapping	26.9	21.5		16.1	16.0		24.1		28.2		41.2	
Bag and Sack (Exc. Shipping Sack)	254.2	261.5		259.2	237.9		261.5		255.8		230.2	
Shipping Sack	90.1	80.1		84.4	98.3		110.7	R	101.9	R	111.9	
Other Converting 1/	83.0	73.7		75.9	54.5		68.9	R	81.8	R	100.4	
Specialty Packaging	501.0	504.3		510.2	545.3		557.0		519.6		563.4	
Special Industrial Papers	1,092.3	1,042.5		1,086.1	1,182.1		1,211.1		1,247.6		1,152.6	
Total Tissue Papers	4,920.6	4,940.5		5,094.6	5,300.9		5,476.1		5,636.5		5,802.4	
Total Sanitary Tissue Stock	4,760.6	4,797.5		4,943.6	5,137.2		5,292.4		5,442.2		5,627.6	
Toilet Tissue	1,851.6	1,882.4		1,905.6	1,930.0		2,032.3		2,151.7		2,278.0	
Facial Tissue Stock	378.5	353.8		359.1	345.2		351.4		353.6		344.3	
Napkin Stock	569.8	579.0		613.7	664.4		697.4		693.3		692.0	
Towelling	1,670.8	1,700.4		1,768.1	1,850.2		1,863.3		1,901.9		1,988.5	
Wiper Stock	N.A.	N.A.		N.A.	N.A.		N.A.		N.A.		N.A.	
Other Sanitary Tissue	289.9	281.9		297.1	343.4		338.0		341.7		326.7	
Total All Other Tissue	160.0	143.0		151.0	163.7		193.7		194.3		174.8	

1/ Excludes Bleached Kraft Envelope Paper 2/ API data series R – Revised RS – Revised Series P – Preliminary NA – Not Available

3/ Data after 1983 may not be fully comparable to earlier data because of changes in procedures in calculating total industry shipments 4/ Includes base stock

NS1–New Series, 1989–Supercalendered (1988 – 464.7) NS2–New Series, 1989–Other (1988 – 1,158.9) NC–Not Comparable to earlier data due to grade change

TABLE III

PAPERBOARD PRODUCTION 1955-1990

BY END USE

THOUSAND TONS	PAPERBOARD	CONTAINERBOARD-DOMESTIC USE			
YEAR	TOTAL	Total	Linerboard	Corrugating Material	Chip and Filler Boards
1955	14,043.7	7,244.2	4,789.6	2,165.4	289.2
1956	14,371.6	7,451.3	4,933.4	2,249.5	268.4
1957	14,181.9	7,337.2	4,869.7	2,215.6	251.9
1958	14,237.0	7,259.2	4,818.9	2,191.3	249.0
1959	15,972.0	8,232.0	5,475.4	2,498.8	257.8
1960	15,926.5	8,186.6	5,474.8	2,461.0	250.8
1961	16,727.3	8,661.3	5,753.9	2,649.3	258.1
1962	17,847.4	9,299.0	6,216.5	2,822.1	260.4
1963	18,593.6	9,638.3	6,414.0	2,961.8	262.5
1964	19,953.8	10,341.9	6,907.5	3,165.1	269.3
1965	21,331.5	11,199.1	7,480.6	3,438.2	280.3
1966	23,178.6	12,459.6	8,347.3	3,799.8	312.5
1967	22,819.3	12,248.6	8,215.6	3,743.5	289.5
1968	24,903.6	13,388.4	9,043.7	4,061.9	282.8
1969	26,375.7	14,396.4	9,692.5	4,395.4	308.6
1970 RS	25,367.5	13,756.6	9,403.1	4,264.0	89.5 *
1971	26,019.1	14,125.5	9,530.8	4,519.7	75.0
1972	28,483.3	15,772.3	10,856.5	4,846.6	69.2
1973	29,548.9	16,689.7	11,355.8	5,255.1	78.8
1974	28,893.6	16,552.3	11,305.5	5,179.3	67.5
1975	24,736.3	14,354.3	9,854.3	4,449.3	50.7
1976	28,415.6	16,493.1	11,375.9	5,061.4	55.8
1977	28,934.7	16,951.3	11,695.8	5,207.9	47.6
1978	30,251.1	17,687.0	12,133.7	5,503.1	50.2
1979	31,404.1	18,649.6	12,819.6	5,775.9	54.1
1980	30,925.9	17,886.7	12,393.1	5,445.6	48.0
1981	31,208.3	18,811.7	13,078.5	5,702.0	31.2
1982	29,044.7	17,309.4	11,935.5	5,341.8	32.1
1983	32,145.7	18,999.8	13,124.7	5,838.1	37.0
1984	34,002.1	20,715.4	14,272.5	6,404.2	38.7
1985	32,921.8	20,042.2	13,752.9	6,255.4	33.9
1986	35,355.4	21,443.3	14,725.8	6,686.6	30.9
1987	37,442.0	23,047.1	15,992.7	7,016.9	37.5
1988 R	38,232.9	23,562.9	16,177.3	7,350.7	35.0
1989 R	38,519.1	23,751.8	16,399.3	7,338.7	13.8
1990	39,422.8	24,431.6	16,875.4	7,549.2	7.0

* Reclassification. Balance of chip board (non-containerboard grades) included in "All Other." RS = Revised Series

TABLE III (Cont.)

PAPERBOARD PRODUCTION 1955-1990

BY END USE

THOUSAND TONS	BOXBOARD-DOMESTIC USE				ALL OTHER
YEAR	Total	Folding	Set-Up	Milk Carton & Food Service	Total
1955	4,407.4	2,938.8	636.7	831.9	2,392.1
1956	4,530.3	2,970.9	636.7	922.7	2,390.0
1957	4,513.4	3,020.8	568.2	924.4	2,331.3
1958	4,533.3	3,032.5	538.6	962.2	2,444.5
1959	4,911.4	3,285.9	576.1	1,049.4	2,828.6
1960	4,894.9	3,291.2	525.1	1,078.6	2,845.0
1961	5,007.5	3,374.8	496.8	1,135.9	3,058.5
1962	5,265.2	3,501.8	523.8	1,239.6	3,283.2
1963	5,417.2	3,635.8	526.8	1,254.6	3,538.1
1964	5,580.8	3,752.3	534.0	1,294.5	4,031.1
1965	5,811.2	3,879.6	547.3	1,384.3	4,321.2
1966	6,075.9	4,040.3	559.7	1,475.9	4,643.1
1967	5,973.1	4,020.7	496.1	1,456.3	4,597.6
1968	6,334.0	4,218.3	519.5	1,596.2	5,181.2
1969	6,424.8	4,261.6	498.6	1,664.6	5,554.5
1970 RS	6,303.1	4,144.1	466.5	1,692.5	5,307.8
1971	6,195.7	4,101.4	448.0	1,646.3	5,697.9
1972	6,531.6	4,420.5	455.1	1,656.0	6,179.4
1973	6,741.8	4,682.1	465.3	1,594.4	6,117.4
1974	6,377.7	4,405.2	403.6	1,568.9	5,963.6
1975	5,644.6	3,877.2	304.5	1,462.9	4,737.4
1976	6,540.8	4,690.9	331.4	1,518.5	5,381.7
1977	6,313.9	4,528.3	302.5	1,483.1	5,669.5
1978	6,457.4	4,678.5	332.7	1,446.2	6,106.7
1979	6,443.8	4,695.1	306.0	1,442.7	6,310.7
1980	6,126.6	4,463.5	241.5	1,421.6	6,912.6
1981	6,192.5	4,563.9	236.0	1,392.6	6,204.1
1982	5,820.2	4,313.0	223.6	1,283.6	5,915.1
1983	6,230.1	4,615.1	256.3	1,358.7	6,915.8
1984	6,498.6	4,839.0	263.8	1,395.8	6,788.1
1985	6,412.8	4,805.1	226.6	1,381.1	6,466.8
1986	6,671.1	5,056.5	219.3	1,395.3	7,241.0
1987	6,874.1	5,209.7	242.5	1,421.9	7,520.8
1988	7,013.9	5,292.7	278.7	1,442.4	7,656.5
1989	7,076.4	5,370.0	287.8	1,418.6	7,960.9
1990	6,948.7	5,197.9	289.8	1,461.0	8,042.5

TABLE IV

CONTAINERBOARD PRODUCTION 1955 - 1990

FOR DOMESTIC USE

THOUSAND TONS	CONTAINERBOARD	LINERBOARD		
YEAR	TOTAL	Total	Kraft	Recycled
1955	7,244.2	4,789.6	3,947.4	842.2
1956	7,451.3	4,933.4	4,139.6	793.8
1957	7,337.2	4,869.7	4,097.9	771.8
1958	7,259.2	4,818.9	4,110.2	708.7
1959	8,232.0	5,475.4	4,701.0	774.4
1960	8,186.6	5,474.8	4,731.2	743.6
1961	8,661.3	5,753.9	5,095.7	658.2
1962	9,299.0	6,216.5	5,514.7	701.8
1963	9,638.3	6,414.0	5,706.1	707.9
1964	10,341.9	6,907.5	6,188.0	719.5
1965	11,199.1	7,480.6	6,698.1	782.5
1966	12,459.6	8,347.3	7,550.2	797.1
1967	12,248.6	8,215.6	7,693.3	522.3
1968	13,388.4	9,043.7	8,612.2	431.5
1969	14,396.4	9,692.5	9,345.3	347.2
1970 RS	13,756.6	9,403.1	9,133.4	269.7
1971	14,125.5	9,530.8	9,249.1	281.7
1972	15,772.3	10,856.5	10,577.6	278.9
1973	16,689.7	11,355.8	11,066.8	289.0
1974	16,552.3	11,305.5	10,838.4	467.1
1975	14,354.3	9,854.3	9,647.0	207.3
1976	16,493.1	11,375.9	11,093.2	282.7
1977	16,951.3	11,695.8	11,354.4	341.4
1978	17,687.0	12,133.7	11,877.3	256.4
1979	18,649.6	12,819.6	12,417.3	402.3
1980	17,886.7	12,393.1	11,948.6	444.5
1981	18,811.7	13,078.5	12,754.3	324.2
1982	17,309.4	11,935.5	11,656.5	279.0
1983	18,999.8	13,124.7	12,835.6	289.1
1984	20,715.4	14,272.5	14,068.8	203.7
1985	20,042.2	13,752.9	13,467.1	285.8
1986	21,443.0	14,725.8	14,305.5	420.3
1987	23,047.1	15,992.7	15,514.4	478.3
1988	23,562.9	16,177.0	15,770.6	406.4
1989	23,751.8	16,399.3	16,011.1	388.2
1990	24,431.6	16,875.4	16,552.7	322.7

RS - Revised Series

TABLE IV (Cont.)

CONTAINERBOARD PRODUCTION 1955 - 1990

FOR DOMESTIC USE

THOUSAND TONS	CORRUGATING MATERIAL			CHIP AND FILLER BOARDS
YEAR	Total	Semi-Chemical #	Recycled	Total
1955	2,165.4	1,470.2	695.2	289.2
1956	2,249.5	1,551.7	697.8	268.4
1957	2,215.6	1,557.8	657.8	251.9
1958	2,191.3	1,486.2	705.1	249.0
1959	2,498.8	1,786.1	712.7	257.8
1960	2,461.0	1,788.9	672.1	250.8
1961	2,649.3	2,023.5	625.8	258.1
1962	2,822.1	2,188.8	633.3	260.4
1963	2,961.8	2,287.1	674.7	262.5
1964	3,165.1	2,447.4	717.7	269.3
1965	3,438.2	2,638.2	800.0	280.3
1966	3,799.8	2,909.8	890.0	312.5
1967	3,743.5	2,982.1	761.4	289.5
1968	4,061.9	3,371.2	690.7	282.8
1969	4,395.4	3,617.0	778.4	308.6
1970 RS	4,264.0	3,404.7	859.3	89.5 *
1971	4,519.7	3,580.2	939.5	75.0
1972	4,846.6	3,874.3	972.3	69.2
1973	5,255.1	4,126.6	1,128.5	78.8
1974	5,179.3	4,010.3	1,169.0	67.5
1975	4,449.3	3,579.3	870.0	50.7
1976	5,061.4	3,986.4	1,075.0	55.8
1977	5,207.9	4,128.2	1,079.7	47.6
1978	5,503.1	4,305.3	1,197.8	50.2
1979	5,775.9	4,573.6	1,202.3	54.1
1980	5,445.6	4,398.5	1,047.1	48.0
1981	5,702.0	4,561.2	1,140.8	31.2
1982	5,341.8	4,202.5	1,139.3	32.1
1983	5,838.1	4,532.7	1,305.4	37.0
1984	6,404.2	5,018.8	1,385.4	38.7
1985	6,255.4	4,896.6	1,358.8	33.9
1986	6,686.6	5,160.8	1,525.8	30.9
1987	7,016.9	5,343.8	1,673.1	37.5
1988	7,350.9	5,527.7	1,823.2	35.0
1989	7,338.7	5,553.5	1,785.2	13.8
1990	7,549.2	5,567.4	1,981.8	7.0

Includes a small amount of unbleached kraft for years 1970 - 1976. RS - Revised Series.
* Reclassification. Balance of chipboard (non-containerboard grades) included in "All Other."

TABLE V

BLEACHED PAPERBOARD PRODUCTION 1960 - 1990

THOUSAND TONS YEAR	Milk Cartons	Folding Cartons	Heavyweight Cup, Rounded Nested Food Containers and Cup Lids	Plate Dish and Tray	Other Packaging Uses*	Linerboard
1960	571.0	745.2	287.4	123.7	136.2	76.0
1961	600.5	797.6	312.9	127.9	146.1	103.5
1962	678.5	865.1	324.4	148.4	139.2	124.2
1963	677.1	943.0	325.3	160.2	153.4	124.2
1964	692.0	988.8	329.2	178.8	182.3	101.1
1965	752.1	1,051.8	339.0	202.1	182.6	75.0
1966	783.2	1,100.7	367.2	232.1	200.4	100.3
1967	772.8	1,133.8	368.6	247.3	171.4	89.5
1968	848.8	1,234.1	412.0	258.9	195.1	104.9
1969	884.6	1,346.0	416.2	282.2	200.9	113.6
1970 RS	940.7	1,327.7	374.2	279.6	198.6	118.8
1971	918.8	1,354.1	366.7	272.9	245.9	124.4
1972	894.4	1,553.5	395.6	313.3	288.6	129.8
1973	871.2	1,705.7	410.4	296.5	348.5	127.7
1974	850.2	1,654.6	415.8	289.6	382.7	99.4
1975	865.8	1,436.3	350.6	233.4	315.8	81.8
1976	822.9	1,773.4	412.3	266.7	402.2	99.5
1977	808.7	1,573.2	401.3	262.4	525.2	85.0
1978	731.2	1,739.5	418.7	287.1	614.9	115.7
1979**	718.7	1,688.8	432.0	274.1	690.2	110.9
1980	677.6	1,548.3	419.5	298.4	747.2	96.3
1981	631.8	1,631.2	441.7	287.4	749.2	100.6
1982	590.5	1,546.2	374.8	274.5	726.9	93.4
1983	606.9	1,693.7	426.3	281.1	734.7	115.0
1984	632.7	1,809.6	416.4	303.5	700.3	118.5
1985	609.0	1,742.0	438.2	284.0	693.6	113.8
1986	581.4	1,911.3	437.2	322.2	779.6	132.0
1987	619.5	2,002.8	444.1	316.0	843.2	134.3
1988	606.3	2,016.5	467.5	324.1	878.0	169.6
1989	565.6	1,980.4	452.4	362.1	915.6	177.7
1990	616.9	1,817.6	478.4	316.5	946.3	138.9

* - Includes Exports.

** - Starting in 1979, lightweight cup is included with heavyweight cup. RS - Revised Series.

TABLE V (Cont.)

BLEACHED PAPERBOARD PRODUCTION 1960 - 1990

THOUSAND TONS	SUMMARY OF PACKAGING PAPERBOARD			NON-PKG. USES	BLEACHED PAPERBOARD PRODUCTION
YEAR	Total Packaging Paperboard	Milk Carton and Food Service	Total Packaging and Food Services Uses*	Total	Total
1960	1,939.5	1,078.6	860.9	119.7	2,059.2
1961	2,088.5	1,135.9	952.6	151.5	2,240.0
1962	2,279.8	1,239.6	1,040.2	173.6	2,453.4
1963	2,383.2	1,254.6	1,128.6	181.8	2,565.0
1964	2,472.2	1,294.5	1,177.7	220.8	2,693.0
1965	2,602.6	1,384.3	1,218.3	244.4	2,847.0
1966	2,783.9	1,475.9	1,308.0	301.4	3,085.3
1967	2,783.4	1,456.3	1,327.1	273.8	3,057.2
1968	3,053.8	1,596.2	1,457.6	314.0	3,367.9
1969	3,243.5	1,664.6	1,578.9	316.4	3,559.9
1970 RS	3,239.6	1,649.0	1,590.6	87.8	3,327.4
1971	3,282.8	1,604.3	1,678.5	80.5	3,363.3
1972	3,575.2	1,623.4	1,951.8	91.9	3,667.1
1973	3,760.0	1,594.3	2,165.7	81.5	3,841.5
1974	3,692.3	1,568.7	2,123.6	59.5	3,751.8
1975	3,283.7	1,462.1	1,821.6	40.3	3,324.0
1976	3,777.0	1,518.4	2,258.6	43.3	3,820.3
1977	3,655.8	1,483.1	2,172.7	47.2	3,703.0
1978	3,907.1	1,446.2	2,460.9	47.7	3,954.8
1979	3,914.7	1,442.7	2,472.0	58.6	3,973.3
1980	3,787.3	1,421.6	2,365.7	48.5	3,835.8
1981	3,841.9	1,392.6	2,449.3	44.2	3,886.1
1982	3,606.3	1,283.6	2,322.7	37.7	3,644.0
1983	3,861.7	1,358.7	2,503.0	33.1	3,894.8
1984	3,981.0	1,395.8	2,585.2	30.2	4,011.2
1985	3,880.6	1,381.1	2,499.5	30.2	3,910.8
1986	4,163.7	1,395.3	2,768.4	43.5	4,207.2
1987	4,359.9	1,421.9	2,938.0	46.4	4,406.3
1988	4,462.0	1,442.4	3,019.6	48.9	4,510.9
1989	4,453.6	1,418.6	3,035.0	67.6	4,521.4
1990	4,314.8	1,461.0	2,853.8	84.6	4,399.4

* - Includes Exports. RS - Revised Series.

TABLE VI

PAPERBOARD PRODUCTION BY REGION

1970 - 1990

THOUSAND TONS	PAPERBOARD	CONTAINERBOARD-DOMESTIC USE			
YEAR	TOTAL	Total	Linerboard	Corrugating Material	Container Chip & Filler Board
NORTH EASTERN					
1970RS	2,627.8	653.4	60.1	556.6	36.7
1971	2,525.3	634.8	54.4	551.1	29.3
1972	2,622.7	645.8	54.7	562.3	28.8
1973	2,733.9	725.3	56.9	615.3	53.1
1974	2,677.5	852.1	152.7	642.0	57.4
1975	2,052.1	536.4	35.2	445.4	55.8
1976	2,255.2	566.2	70.8	448.2	47.2
1977	2,247.3	562.9	70.8	446.6	45.5
1978	2,284.4	561.3	37.4	470.2	53.7
1979	2,259.8	564.2	61.4	456.7	46.1
1980	2,042.7	486.9	27.3	415.2	44.4
1981	1,867.7	369.9	-	328.5	41.4
1982	1,651.9	342.8	10.8	295.6	36.4
1983	1,891.1	380.3	45.6	317.8	16.9
1984	1,835.3	362.4	-	346.0	16.4
1985	1,828.1	333.3	-	327.3	6.0 *
1986	1,929.8	375.7	-	369.3	6.4
1987	1,997.5	391.0	0.3	375.6	15.1
1988	2,066.6	422.5	15.4	398.6	8.5
1989	2,018.0	402.8	7.8	386.5	8.5
1990	1,930.9	372.1	4.7	367.4	-
SOUTHERN					
1970RS	15,062.9	8,961.4	7,306.7	1,618.4	36.3
1971	15,764.5	9,330.7	7,507.6	1,789.6	33.5
1972	17,464.8	10,671.2	8,658.6	1,988.1	24.5
1973	18,157.0	11,256.8	9,083.5	2,159.0	14.3
1974	17,857.1	11,006.8	8,883.3	2,111.0	12.5
1975	15,733.1	9,882.1	7,957.7	1,860.9	63.4
1976	18,097.2	11,400.7	9,178.2	2,181.4	41.1
1977	18,204.3	11,541.0	9,299.0	2,199.4	42.6
1978	19,516.2	12,268.7	9,890.2	2,331.5	47.0
1979	20,194.2	12,692.1	10,280.6	2,376.9	34.6
1980	20,165.8	12,120.0	9,897.6	2,196.4	26.0
1981	20,418.2	12,863.0	10,527.9	2,300.9	34.2
1982	19,221.8	11,872.3	9,682.3	2,157.3	32.7
1983	20,899.3	12,864.3	10,546.5	2,280.5	37.3
1984	22,238.1	14,143.6	11,536.9	2,568.1	38.6
1985	21,389.7	13,606.5	11,068.8	2,536.2	1.5 *
1986	22,939.8	14,364.3	11,693.4	2,668.5	2.4
1987	24,484.8	15,663.7	12,811.7	2,852.0	-
1988R	25,063.1	16,035.3	12,969.1	3,066.2	-
1989R	23,988.0	16,312.5	13,236.0	3,076.4	-
1990R	26,634.5	16,863.3	13,750.8	3,112.5	-

NOTE: Exports are included in "All Other." * Reclassification. Balance of chipboard (non-containerboard grades) included in "All Other." Detail does not necessarily add to totals due to rounding. RS - Revised Series.

TABLE VI (Cont.)

PAPERBOARD PRODUCTION BY REGION

1970 - 1990

THOUSAND TONS	BOXBOARD-DOMESTIC USE				ALL OTHER
YEAR	Total	Folding	Set-Up	Milk Carton & Food Service	Total
NORTH EASTERN					
1970RS	1,108.1	851.1	194.1	62.9	866.3
1971	1,003.9	767.1	176.2	60.6	886.6
1972	1,020.8	788.4	181.3	51.1	956.1
1973	961.9	752.2	181.0	28.7	1,046.7
1974	861.6	679.8	154.2	27.6	963.8
1975	724.5	582.0	116.5	26.0	791.2
1976	841.1	690.8	120.9	29.4	847.9
1977	865.1	735.4	102.5	27.2	819.3
1978	861.1	723.3	112.7	25.0	862.1
1979	840.9	721.9	85.5	33.5	854.7
1980	787.8	680.4	72.3	35.1	768.0
1981	780.1	687.9	63.4	28.8	717.7
1982	678.1	593.3	59.4	25.4	631.0
1983	730.9	631.0	74.1	25.8	779.9
1984	710.1	614.2	71.2	24.7	762.8
1985	673.8	587.0	65.2	21.6	821.0 *
1986	703.7	649.6	54.1	-	850.4
1987	758.5	686.9	71.6	-	848.0
1988	781.3	695.3	86.0	-	862.8
1989	810.1	724.8	85.3	-	805.1
1990	702.7	607.2	95.5	-	856.1
SOUTHERN					
1970RS	2,887.1	1,349.9	113.4	1,423.8	3,214.4
1971	2,943.0	1,407.0	105.5	1,430.5	3,490.8
1972	3,110.0	1,555.0	108.4	1,446.6	3,683.6
1973	3,299.1	1,767.2	118.0	1,413.9	3,601.1
1974	3,169.1	1,677.3	104.9	1,386.9	3,681.2
1975	2,870.4	1,517.8	89.6	1,263.0	2,980.6
1976	3,329.8	1,899.5	99.7	1,330.6	3,366.7
1977	3,094.3	1,710.4	96.6	1,287.3	3,569.0
1978	3,278.4	1,892.7	104.5	1,281.2	3,969.1
1979	3,250.8	1,869.5	104.5	1,276.8	4,251.3
1980	3,123.3	1,768.8	100.3	1,254.2	4,922.5
1981	3,177.3	1,839.2	105.4	1,232.7	4,377.9
1982	2,991.9	1,740.5	94.5	1,156.9	4,357.6
1983	3,233.5	1,927.0	98.8	1,207.7	4,801.5
1984	3,392.8	2,046.0	107.3	1,239.5	4,701.7
1985	3,294.9	1,990.1	86.4	1,218.4	4,488.3 *
1986	3,483.4	2,118.4	94.4	1,270.6	5,092.1
1987	3,578.3	2,210.0	93.2	1,275.1	5,246.0
1988R	3,590.6	2,220.7	105.5	1,264.4	5,437.2
1989R	4,549.5	3,130.9	112.3	1,306.3	3,126.0
1990	4,330.1	2,933.1	91.1	1,305.9	5,441.1

NOTE: Exports are included in "All Other." Detail does not necessarily add due to rounding.
For this table, unbleached kraft folding has been included with the "All Other" domestic data.
RS - Revised Series. * Reclassification.

TABLE VI (Cont.)

PAPERBOARD PRODUCTION BY REGION

1970 - 1990

THOUSAND TONS	PAPERBOARD	CONTAINERBOARD-DOMESTIC USE			
YEAR	TOTAL	Total	Linerboard	Corrugating Material	Container Chip & Filler Board
NORTH CENTRAL					
1970	3,936.0	1,788.9	110.3	1,471.0	207.6
1971	4,041.1	1,854.0	101.8	1,534.1	218.1
1972	4,245.5	1,926.0	106.4	1,597.4	222.2
1973	4,360.5	2,031.9	111.0	1,697.3	223.6
1974	4,186.5	2,005.7	176.6	1,637.9	191.2
1975	3,367.2	1,655.4	63.9	1,448.6	142.9
1976	3,927.9	1,869.8	57.0	1,663.9	148.9
1977	4,091.7	2,010.3	117.2	1,734.3	158.8
1978	4,164.2	2,127.5	98.6	1,870.4	158.5
1979	4,352.9	2,334.9	165.8	2,029.3	139.8
1980	4,137.7	2,271.1	191.4	1,943.5	136.1
1981	4,288.2	2,416.9	143.3	2,124.8	148.8
1982	3,979.3	2,210.0	103.9	1,984.3	121.8
1983	4,396.7	2,413.3	60.8	2,227.0	125.5
1984	4,770.4	2,600.9	75.3	2,409.6	116.0
1985	4,565.3	2,441.2	86.8	2,333.4	21.0 *
1986	4,898.3	2,648.7	73.2	2,555.9	19.6
1987	5,042.9	2,716.5	72.4	2,623.9	20.2
1988	5,136.4	2,778.0	63.5	2,690.5	24.0
1989	6,572.8	2,730.3	42.9	2,685.0	2.4
1990	5,132.8	2,881.7	44.2	2,833.4	7.1
PACIFIC COAST					
1970	3,740.8	2,560.6	1,926.0	618.0	16.6
1971	3,688.2	2,533.5	1,867.0	644.9	21.6
1972	4,150.3	2,776.0	2,036.8	698.8	40.4
1973	4,297.5	2,914.0	2,104.4	783.5	26.1
1974	4,172.5	2,902.4	2,092.9	788.3	21.2
1975	3,583.9	2,512.3	1,797.4	694.4	20.5
1976	4,135.3	2,863.5	2,069.9	768.0	25.6
1977	4,391.4	3,053.2	2,208.8	827.6	16.8
1978	4,286.3	2,950.8	2,107.5	831.0	12.3
1979	4,597.2	3,233.6	2,311.8	913.0	8.0
1980	4,579.7	3,192.3	2,276.8	890.5	25.0
1981	4,634.2	3,390.2	2,407.3	947.8	35.1
1982	4,191.7	3,082.4	2,138.5	904.6	39.3
1983	4,958.6	3,515.1	2,471.8	1,012.8	30.5
1984	5,158.3	3,748.2	2,660.3	1,080.5	7.4
1985	5,138.7	3,661.2	2,597.3	1,058.5	5.4 *
1986	5,587.8	4,054.9	2,959.5	1,092.9	2.5
1987	5,913.6	4,275.9	3,108.3	1,165.4	2.2
1988	5,968.2	4,327.4	3,129.3	1,195.6	2.5
1989	5,940.9	4,306.2	3,112.5	1,191.2	2.5
1990	5,724.6	4,314.5	3,078.6	1,235.9	-

* Reclassification. Balance of chipboard (non-containerboard grades) included in "All Other."

TABLE VI (Cont.)

PAPERBOARD PRODUCTION BY REGION

1970 - 1990

THOUSAND TONS YEAR	BOXBOARD-DOMESTIC				ALL OTHER
	Total	Folding	Set-Up	Milk Carton & Food Service	Total
NORTH CENTRAL					
1970RS	1,338.3	1,194.3	133.5	10.5	808.8
1971	1,345.5	1,195.8	140.9	8.8	841.6
1972	1,396.3	1,246.0	141.8	8.5	923.2
1973	1,379.4	1,236.3	142.7	0.4	949.2
1974	1,262.3	1,137.6	124.6	0.1	918.5
1975	1,018.4	937.2	80.6	0.6	693.4
1976	1,177.9	1,089.8	88.0	0.1	880.2
1977	1,165.2	1,077.5	87.7	-	916.2
1978	1,123.9	1,031.8	92.1	-	912.8
1979	1,105.5	1,009.7	95.8	-	912.5
1980	1,030.7	978.2	52.5	-	835.9
1981	1,062.3	1,011.8	50.5	-	809.0
1982	1,035.1	984.2	50.9	-	734.2
1983	1,112.1	1,049.8	62.3	-	871.3
1984	1,176.0	1,104.9	71.1	-	993.5
1985	1,154.9	1,090.1	64.8	-	969.2
1986	1,131.1	1,064.4	66.7	-	1,118.5
1987	1,182.7	1,110.0	72.7	-	1,143.7
1988	1,178.0	1,094.3	83.7	-	1,180.4
1989	1,188.5	1,116.1	72.4	-	2,654.0
1990	1,338.7	1,257.0	81.7	-	912.4
PACIFIC COAST					
1970	626.2	405.4	25.5	195.3	554.0
1971	563.7	391.9	25.4	146.4	591.0
1972	614.7	441.3	23.6	149.8	759.6
1973	646.6	471.6	23.6	151.4	736.9
1974	615.0	440.8	19.9	154.3	655.1
1975	568.3	377.2	17.8	173.3	503.3
1976	614.5	433.3	22.8	158.4	657.3
1977	601.4	417.1	15.7	168.6	736.8
1978	576.5	413.1	23.4	140.0	759.0
1979	548.8	396.2	20.2	132.4	814.8
1980	504.4	355.7	16.4	132.3	883.0
1981	500.9	353.1	16.7	131.1	743.1
1982	424.5	304.4	18.8	101.3	684.8
1983	443.5	297.2	21.1	125.2	1,000.0
1984	467.3	321.5	14.2	131.6	942.8
1985	467.5	316.2	10.2	141.1	1,010.0
1986	463.5	334.7	4.1	124.7	1,069.4
1987	489.7	337.9	5.0	146.8	1,148.0
1988	540.1	358.3	3.5	178.3	1,100.7
1989	527.1	398.2	16.6	112.3	1,107.6
1990	576.4	400.4	21.4	154.6	833.7

NOTES: Exports and Unbleached Kraft Folding in "All Other." Detail may not add due to rounding.

TABLE VII

PAPERBOARD PRODUCTION

BY GRADE AND TYPE 1974 – 1990

THOUSAND TONS	CONTAINERBOARD – DOMESTIC				BOXBOARD – DOMESTIC		
YEAR	Total	Linerboard	Corrugating Material	Container Chip & Filler Board	Total	Folding	Set-Up
Total Paperboard							
1974	16,552.3	11,305.5	5,179.3	67.5 *	6,377.7	4,405.2	403.6
1975	14,354.3	9,854.3	4,449.3	50.7 *	5,644.6	3,877.2	304.5
1976	16,493.1	11,375.9	5,061.4	55.8 *	6,540.8	4,690.9	331.4
1977	16,951.3	11,695.8	5,207.9	47.6 *	6,313.9	4,528.3	302.5
1978	17,687.0	12,133.7	5,503.1	50.2 *	6,457.4	4,678.5	332.7
1979	18,649.6	12,819.6	5,775.9	54.1 *	6,443.8	4,695.1	306.0
1980	17,886.7	12,393.1	5,445.6	48.0 *	6,128.6	4,463.5	241.5
1981	18,811.7	13,078.5	5,702.0	31.2 *	6,192.5	4,563.9	236.0
1982	17,309.4	11,935.5	5,341.8	32.1 *	5,820.2	4,313.0	223.6
1983	18,999.8	13,124.7	5,838.1	37.0 *	6,230.1	4,615.1	256.3
1984	20,715.4	14,272.5	6,404.2	38.7 *	6,498.6	4,839.0	263.8
1985	20,042.2	13,752.9	6,255.4	33.9 *	6,412.8	4,805.1	226.6
1986	21,446.0	14,725.8	6,689.3	30.9	6,671.1	5,056.5	219.3
1987	23,047.1	15,992.7	7,016.9	37.5	6,874.1	5,209.7	242.5
1988	23,562.9	16,177.0	7,350.9	35.0	7,013.9	5,292.7	278.8
1989	23,751.8	16,399.3	7,338.7	13.8	7,076.4	5,370.0	287.8
1990	24,431.6	16,875.4	7,549.2	7.0	6,948.7	5,197.9	289.8
Unbleached Kraft							
1974	10,754.3	10,739.0	3.8	11.5	469.7	469.7	–
1975	9,586.0	9,565.2	8.7	12.1	463.0	463.0	–
1976	11,023.9	10,993.7	20.1	10.1	577.5	577.5	–
1977	11,283.0	11,269.4	–	13.6	587.9	587.9	–
1978	11,779.7	11,761.6	–	18.1	617.6	617.6	–
1979	12,306.5	12,306.5	–	–	697.8	697.8	–
1980	11,852.3	11,852.3	–	–	680.4	680.4	–
1981	12,653.7	12,653.7	–	–	671.9	671.9	–
1982	11,563.1	11,563.1	–	–	690.6	690.6	–
1983	12,720.6	12,720.6	–	–	710.1	710.1	–
1984	13,950.3	13,950.3	–	–	752.4	752.4	–
1985	13,353.3	13,353.3	–	–	821.7	821.7	–
1986	14,173.5	14,173.5	–	–	889.4	889.4	–
1987	15,380.1	15,380.1	–	–	864.9	864.9	–
1988	15,601.0	15,601.0	–	–	923.6	923.6	–
1989	15,833.4	15,833.4	–	–	986.7	986.7	–
1990	16,413.8	16,413.8	–	–	970.4	970.4	–
Semichemical							
1974	4,008.5	–	4,008.5	–	–	–	–
1975	3,570.6	–	3,570.6	–	–	–	–
1976	3,966.3	–	3,966.3	–	–	–	–
1977	4,128.2	–	4,128.2	–	–	–	–
1978	4,305.3	–	4,305.3	–	–	–	–
1979	4,573.6	–	4,573.6	–	–	–	–
1980	4,398.5	–	4,398.5	–	–	–	–
1981	4,561.2	–	4,561.2	–	–	–	–
1982	4,202.5	–	4,202.5	–	–	–	–
1983	4,532.7	–	4,532.7	–	–	–	–
1984	5,018.8	–	5,018.8	–	–	–	–
1985	4,896.6	–	4,896.6	–	–	–	–
1986	5,163.5	–	5,163.5	–	–	–	–
1987	5,343.8	–	5,343.8	–	–	–	–
1988	5,527.7	–	5,527.7	–	–	–	–
1989	5,553.5	–	5,553.5	–	–	–	–
1990	5,567.4	–	5,567.4	–	–	–	–

– Represents zero.

* Reclassification. Balance of chipboard (non–containerboard grades) included in "All Other."

TABLE VII (Cont.)

PAPERBOARD PRODUCTION

BY GRADE AND TYPE 1974 – 1990

THOUSAND TONS	BOXBOARD (Cont.)	ALL OTHER (Excl. Exports)				EXPORTS	ALL GRADES
YEAR	Milk Carton & Food Service	TOTAL	Gypsum Wallboard Facing	Tube, Can and Drum	Balance of All Other	Total	Total
Total Paperboard							
1974	1,568.9	3,814.2	984.1	1,128.5	1,701.6	2,149.4	28,893.6
1975	1,462.9	3,284.1	893.8	907.4	1,482.9	1,453.3	24,736.3
1976	1,518.5	3,672.5	984.5	1,016.6	1,671.4	1,709.2	28,415.6
1977	1,483.1	3,839.1	1,056.8	1,075.9	1,706.4	1,830.4	28,934.7
1978	1,446.2	4,066.8	1,094.0	1,163.0	1,809.8	2,039.9	30,251.1
1979	1,442.7	4,046.1	1,179.9	1,177.2	1,691.0	2,262.6	31,404.1
1980	1,421.6	3,576.2	918.8	1,077.7	1,581.7	3,334.4	30,925.9
1981	1,392.6	3,582.2	887.6	1,114.6	1,580.0	2,621.9	31,208.3
1982	1,283.6	3,261.3	805.2	1,046.2	1,409.9	2,653.8	29,044.7
1983	1,358.7	3,903.8	1,053.8	1,210.6	1,639.2	3,012.0	32,145.7
1984	1,395.8	4,056.8	1,125.2	1,254.8	1,676.8	2,731.3	34,002.1
1985	1,381.1	3,955.5	1,149.4	1,211.4	1,594.7	2,511.3	32,921.8
1986	1,395.3	4,150.3	1,220.1	1,266.3	1,663.9	3,088.0	35,355.4
1987	1,421.9	4,331.2	1,237.0	1,333.9	1,760.3	3,189.6	37,442.0
1988	1,442.4	4,524.8	1,311.2 R	1,410.2	1,803.4	3,131.7	38,233.3 R
1989	1,418.6	4,459.3	1,281.1 R	1,453.3	1,724.9	3,232.1	38,519.6 R
1990	1,461.0	4,427.6	1,229.6	1,456.4	1,741.6	3,614.9	39,422.8
Unbleached Kraft							
1974	–	526.2	–	231.0	295.2	1,582.7	13,332.9
1975	–	435.9	–	175.9	260.0	1,057.9	11,542.8
1976	–	483.5	–	217.5	266.0	1,247.3	13,332.2
1977	–	490.3	–	227.8	262.5	1,289.6	13,650.8
1978	–	508.9	–	250.6	258.3	1,466.3	14,372.5
1979	–	500.9	–	267.0	233.9	1,645.9	15,151.1
1980	–	382.7	–	226.4	156.3	2,379.9	15,296.3
1981	–	390.2	–	219.2	171.0	1,886.6	15,602.3
1982	–	349.7	–	192.9	156.8	1,931.5	14,534.9
1983	–	410.9	–	204.3	206.6	2,280.7	16,122.3
1984	–	396.3	–	191.5	204.8	2,086.4	17,185.4
1985	–	362.6	–	164.2	198.4	1,830.0	16,367.6
1986	–	380.8	–	164.0	216.8	2,236.6	17,680.3
1987	–	350.1	–	160.6	189.5	2,302.8	18,897.9
1988	–	320.0	–	155.3	164.7	2,295.7	19,140.3
1989	–	307.1	–	149.5	157.6	2,363.0	19,490.2
1990	–	282.4	–	125.4	157.0	2,690.7	20,357.3
Semichemical							
1974	–	23.4	–	17.4	6.0	145.5	4,175.4
1975	–	15.8	–	13.9	1.9	115.4	3,701.8
1976	–	19.4	–	18.2	1.2	119.3	4,105.0
1977	–	14.3	–	14.3	–	121.9	4,264.4
1978	–	14.8	–	14.6	0.2	119.2	4,439.3
1979	–	17.3	–	10.8	6.5	98.2	4,689.1
1980	–	2.7	–	2.4	0.3	322.3	4,723.5
1981	–	2.8	–	2.7	0.1	155.2	4,719.2
1982	–	1.9	–	1.3	0.6	184.9	4,389.3
1983	–	5.1	–	–	5.1	192.6	4,730.4
1984	–	1.0	–	–	1.0	149.2	5,169.0
1985	–	2.0	–	–	2.0	189.4	5,088.0
1986	–	–	–	–	–	212.5	5,376.0
1987	–	–	–	–	–	192.5	5,536.3
1988	–	–	–	–	–	136.3	5,664.0
1989	–	–	–	–	–	137.6	5,691.1
1990	–	–	–	–	–	142.5	5,709.9

– Represents zero. R – Revised.

TABLE VII (Cont.)

PAPERBOARD PRODUCTION

BY GRADE AND TYPE 1974 – 1990

THOUSAND TONS	CONTAINERBOARD – DOMESTIC				BOXBOARD – DOMESTIC		
YEAR	Total	Linerboard	Corrugating Material	Container Chip & Filler Board	Total	Folding	Set-Up
Solid Bleached							
1974	99.4	99.4	–	–	3,223.3	1,654.6	–
1975	81.8	81.8	–	–	2,898.4	1,436.3	–
1976	99.5	99.5	–	–	3,291.8	1,773.4	–
1977	85.0	85.0	–	–	3,056.3	1,573.2	–
1978	115.7	115.7	–	–	3,185.7	1,739.5	–
1979	110.9	110.9	–	–	3,131.5	1,688.8	–
1980	96.3	96.3	–	–	2,969.9	1,548.3	–
1981	100.6	100.6	–	–	3,023.8	1,631.2	–
1982	93.4	93.4	–	–	2,829.8	1,546.2	–
1983	115.0	115.0	–	–	3,052.4	1,693.7	–
1984	118.5	118.5	–	–	3,205.4	1,809.8	–
1985	113.8	113.8	–	–	3,123.1	1,742.0	–
1986	132.0	132.0	–	–	3,306.6	1,911.3	–
1987	134.3	134.3	–	–	3,424.7	2,002.8	–
1988	169.6	169.6	–	–	3,458.9	2,016.5	–
1989	177.7	177.7	–	–	3,399.0	1,960.4	–
1990	138.9	138.9	–	–	3,278.6	1,817.6	–
Recycled							
1974	1,692.1	467.1	1,169.0	56.0 *	2,684.7	2,280.9	403.8
1975	1,115.9	207.3	870.0	38.6 *	2,283.2	1,977.9	304.5
1976	1,403.4	282.7	1,075.0	45.7 *	2,671.5	2,340.0	331.4
1977	1,455.1	341.4	1,079.7	34.0 *	2,669.7	2,367.2	302.5
1978	1,486.3	256.4	1,197.8	32.1 *	2,654.1	2,321.4	332.7
1979	1,658.7	402.3	1,202.3	54.1 *	2,614.5	2,308.5	306.0
1980	1,539.6	444.5	1,047.1	48.0 *	2,476.3	2,234.8	241.5
1981	1,496.2	324.2	1,140.8	31.2 *	2,496.8	2,260.8	236.0
1982	1,450.4	279.0	1,139.3	32.1 *	2,299.8	2,076.2	223.6
1983	1,631.5	289.1	1,305.4	37.0 *	2,467.6	2,211.3	256.3
1984	1,627.8	203.7	1,385.4	38.7 *	2,540.8	2,277.0	263.8
1985	1,678.5	285.8	1,358.8	33.9 *	2,466.0	2,241.4	226.6
1986	1,977.0	420.3	1,525.8	30.9	2,475.1	2,255.8	219.3
1987	2,188.9	478.3	1,673.1	37.5	2,584.5	2,342.0	242.5
1988	2,264.9	406.7	1,823.2	35.0	2,631.3	2,352.6	278.7
1989	2,187.2	388.2	1,785.2	13.8	2,690.7	2,402.9	287.8
1990	2,311.5	322.7	1,981.8	7.0	2,699.7	2,409.9	289.8

– Represents zero.

* Reclassification. Balance of chipboard (non–containerboard grades) included in "All Other."

TABLE VII (Cont.)

PAPERBOARD PRODUCTION

BY GRADE AND TYPE 1974 – 1990

THOUSAND TONS	BOXBOARD (Cont.)	ALL OTHER (Excl. Exports)				EXPORTS	ALL GRADES
YEAR	Milk Carton & Food Service	TOTAL	Gypsum Wallboard Facing	Tube, Can and Drum	Balance of All Other	Total	Total
Solid Bleached							
1974	1,568.7	108.9	–	–	108.9	320.2	3,751.8
1975	1,462.1	87.6	–	–	87.6	256.2	3,324.0
1976	1,516.4	122.9	–	–	122.9	306.1	3,820.3
1977	1,483.1	172.3	–	–	172.3	389.4	3,703.0
1978	1,446.2	220.5	–	–	220.5	432.9	3,954.8
1979	1,442.7	234.5	–	–	234.5	496.7	3,973.3
1980	1,421.6	220.0	–	–	220.0	549.6	3,835.8
1981	1,392.6	205.3	–	–	205.3	556.4	3,886.1
1982	1,283.6	196.1	–	–	196.1	524.7	3,644.0
1983	1,358.7	213.0	–	–	213.0	514.4	3,894.8
1984	1,395.8	209.0	–	–	209.0	478.3	4,011.2
1985	1,381.1	208.3	–	–	208.3	485.6	3,910.8
1986	1,395.3	199.9	–	–	199.9	588.7	4,207.2
1987	1,421.9	228.4	–	–	228.4	616.9	4,406.3
1988	1,442.4	255.0	–	–	255.0	627.7	4,510.9
1989	1,418.6	251.2	–	–	251.2	693.4	4,521.4
1990	1,461.0	249.4	–	–	249.4	732.5	4,399.4
Recycled							
1974	0.2	3,155.7	984.1	880.1	1,291.5	101.0	7,633.5
1975	0.8	2,744.8	893.8	717.6	1,133.4	23.8	6,167.7
1976	0.1	3,046.7	984.5	780.9	1,281.3	36.5	7,158.1
1977	–	3,162.2	1,056.8	833.8	1,271.6	29.5	7,316.5
1978	–	3,322.6	1,094.0	897.8	1,330.8	21.5	7,484.5
1979	–	3,295.7	1,179.9	899.4	1,216.4	21.8	7,590.7
1980	–	2,972.8	918.8	848.9	1,205.1	82.6	7,071.3
1981	–	2,983.9	887.6	892.7	1,203.6	23.8	7,000.7
1982	–	2,713.6	805.2	852.0	1,056.4	12.7	6,476.5
1983	–	3,274.8	1,053.8	1,006.5	1,214.5	24.3	7,398.2
1984	–	3,450.5	1,125.2	1,063.3	1,262.0	17.4	7,636.5
1985	–	3,382.6	1,149.4	1,047.2	1,186.0	26.3	7,555.4
1986	–	3,569.6	1,220.1	1,102.3	1,247.2	70.2	8,091.9
1987	–	3,752.7	1,237.0	1,173.3	1,342.4	75.4	8,601.5
1988	–	3,949.8	1,311.2 R	1,254.9	1,383.7	72.0	8,917.5 R
1989	–	3,901.0	1,281.1 R	1,303.8	1,316.1	38.0	8,816.7 R
1990	–	3,895.8	1,229.6	1,331.0	1,335.2	49.3	8,956.4

– Represents zero. R – Revised.

TABLE VIII

PAPER AND PAPERBOARD

PRODUCTION, NEW SUPPLY AND NEW SUPPLY/REAL G.N.P.

1963 – 1990

000 Short Tons	1963	1964	1965	1966	1967	1968	1969
Production – Total	38,646	40,962	43,455	46,701	46,568	50,133	52,914
Total Paper	17,319	18,112	19,157	20,725	20,926	22,181	23,449
Total Paperboard	18,594	19,954	21,332	23,178	22,819	24,890	26,362
Unbleached Kraft	6,750	7,600	8,301 E	9,303 E	9,485 E	10,762	11,816
Semichemical	2,304	2,481	2,681 E	2,969 E	3,057 E	3,475	3,697
Bleached Kraft	2,539	2,666	2,818 E#	3,053 E#	3,060 E#	3,310	3,527
Recycled	7,001	7,207	7,532 E	7,853 E	7,217 E	7,343	7,322
Wet Machine Board	141	148	144	148	144	155	148
Building Paper	1,453	1,533	1,574	1,495	1,503	1,574	1,603
Insulating Board	1,139	1,215	1,248	1,155	1,176	1,333	1,352
New Supply							
Total Paper	22,475	23,747	25,197	27,323	27,232	28,277	29,973
Newsprint	7,498	8,051	8,510	9,268	9,165	9,307	9,959
Printing/Writing Papers	8,153	8,655	9,348	10,362	10,210	10,502	11,218
Uncoated Groundwood	990	1,053	1,069	1,217	1,163	1,219	1,306
Coated	2,398	2,572	2,767	3,039	3,041	3,045	3,240
Uncoated Free Sheet	3,609	3,824	4,198	4,676	4,584	4,769	5,163
Thin and Cotton Fiber	287	301	314	351	345	351	371
Bleached Bristols	869	905	1,000	1,079	1,077	1,118	1,138
Packaging & Ind. Conv. Papers	4,258	4,316	4,473	4,610	4,645	5,033	5,205
Unbleached Kraft	3,024	3,038	3,150	3,269	3,233	3,494	3,602
Other	1,234	1,278	1,323	1,341	1,412	1,539	1,603
Tissue	2,566	2,725	2,866	3,083	3,212	3,435	3,591
Total Paperboard	17,941	18,976	20,301	22,063	21,498	23,310	24,514
Unbleached Kraft	6,254	6,843	7,401	8,332	8,317	9,388	10,136
Semichemical	2,221	2,374	2,626	2,905	2,981	3,381	3,645
Bleached Board	2,500	2,621	2,771	2,994	2,999	3,202	3,419
Recycled	6,966	7,138	7,503	7,832	7,201	7,339	7,314
Construction and Other	2,733	2,917	2,972	2,791	2,827	3,073	3,105
Total All Grades, Excl. Products	43,149	45,640	48,470	52,177	51,557	54,660	57,592
Paper and Products	22,438	23,689	25,130	27,386	27,238	28,317	30,018
Paperboard and Products	17,810	18,871	20,168	21,940	21,369	22,961	24,300
Paper, Paperboard and Products	40,248	42,560	45,298	49,326	48,607	51,278	54,318
Total Including Products	42,981	45,477	48,270	52,117	51,434	54,351	57,421
Real G.N.P. – $ Bil., 1962 Prices	1,873.3	1,973.3	2,087.6	2,208.3	2,271.3	2,365.6	2,423.3
Ratio of New Supply to Real GNP							
Total Paper	11.998	12.034	12.070	12.373	11.990	11.953	12.369
Newsprint	4.003	4.080	4.076	4.197	4.035	3.934	4.110
Printing/Writing Papers	4.352	4.386	4.478	4.692	4.495	4.439	4.629
Uncoated Groundwood	0.528	0.534	0.512	0.551	0.512	0.515	0.539
Coated	1.280	1.303	1.325	1.376	1.339	1.287	1.337
Uncoated Free Sheet	1.927	1.938	2.011	2.117	2.018	2.016	2.131
Thin and Cotton Fiber	0.153	0.153	0.150	0.159	0.152	0.148	0.153
Bleached Bristols	0.464	0.459	0.479	0.489	0.474	0.473	0.470
Packaging & Ind. Conv. Papers	2.273	2.187	2.143	2.088	2.045	2.128	2.148
Unbleached Kraft	1.614	1.540	1.509	1.480	1.423	1.477	1.486
Other	0.659	0.648	0.634	0.607	0.622	0.651	0.661
Tissue	1.370	1.381	1.373	1.396	1.414	1.452	1.482
Total Paperboard	9.577	9.616	9.725	9.991	9.465	9.854	10.116
Unbleach Kraft	3.338	3.468	3.545	3.773	3.662	3.969	4.183
Semichemical	1.186	1.203	1.258	1.315	1.312	1.429	1.504
Bleached Board	1.335	1.328	1.327	1.356	1.320	1.354	1.411
Recycled	3.719	3.617	3.594	3.547	3.170	3.102	3.018
Construction and Other	1.459	1.478	1.424	1.264	1.245	1.299	1.281
Total All Grades, Excl. Products	23.034	23.129	23.218	23.628	22.699	23.106	23.766
Paper and Products	11.978	12.005	12.038	12.401	11.992	11.970	12.386
Paperboard and Products	9.507	9.563	9.661	9.935	9.408	9.706	10.028
Paper, Paperboard and Products	21.485	21.568	21.699	22.337	21.401	21.676	22.414
Total Including Products	22.944	23.046	23.122	23.601	22.645	22.975	23.695

NOTE: New Supply based on Tables XXXIV and XXXV imports/exports
Includes about 5% paper
E – Estimated by API

TABLE VIII (Cont.)

PAPER AND PAPERBOARD

PRODUCTION, NEW SUPPLY AND NEW SUPPLY/REAL G.N.P.

1963 – 1990

000 Short Tons	1970	1971	1972	1973	1974	1975	1976
Production – Total	51,670	53,162	57,435	59,901	59,041	50,976	58,327
Total Paper	23,351	23,722	25,359	26,797	26,863	23,260	26,577
Total Paperboard	25,367	26,019	28,484	29,550	28,894	24,737	28,415
Unbleached Kraft	11,541	11,800	13,269	13,563	13,333	11,543	13,332
Semichemical	3,518	3,700	4,010	4,260	4,175	3,702	4,105
Bleached Kraft	3,327	3,363	3,667	3,842	3,752	3,324	3,820
Recycled	6,981	7,156	7,538	7,885	7,634	6,168	7,158
Wet Machine Board	139	138	148	149	144	115	130
Building Paper	1,594	1,837	1,915	1,858	1,845	1,615	1,771
Insulating Board	1,219	1,446	1,529	1,547	1,295	1,249	1,434
New Supply							
Total Paper	29,650	30,084	32,035	34,028	34,175	28,263	32,513
Newsprint	9,797	9,773	10,269	10,877	10,955	9,048	9,917
Printing/Writing Papers	11,016	11,295	12,312	13,495	13,571	10,933	13,281
Uncoated Groundwood	1,310	1,324	1,334	1,388	1,460	1,317	1,588
Coated	3,168	3,124	3,412	3,711	3,693	3,037	3,842
Uncoated Free Sheet	5,098	5,413	5,996	6,729	6,794	5,295	6,439
Thin and Cotton Fiber	353	338	390	410	401	334	363
Bleached Bristols	1,087	1,096	1,180	1,257	1,223	950	1,049
Packaging and Ind. Conv. Papers	5,139	5,199	5,497	5,640	5,587	4,334	5,151
Unbleached Kraft	3,582	3,598	3,791	3,916	3,951 RS	3,070	3,598
Other	1,557	1,601	1,706	1,724	1,636 RS	1,264	1,553
Tissue	3,698	3,817	3,957	4,016	4,062	3,948	4,164
Total Paperboard	23,478	23,921	26,261	27,567	26,779	23,292	26,720
Unbleached Kraft	9,858	9,976	11,382	11,972	11,760	10,485	12,089
Semichemical	3,434	3,596	3,898	4,153	4,030	3,587	3,986
Bleached Board	3,213	3,207	3,449	3,561	3,432	3,068	3,514
Recycled	6,973	7,142	7,532	7,881	7,557	6,152	7,131
Construction and Other	2,972	3,467	3,650	3,604	3,301	3,001	3,367
Total All Grades, Excluding Products	56,100	57,472	61,946	65,199	64,255	54,556	62,600
Paper and Products	29,780	30,389	32,285	34,060	33,740	28,317	32,509
Paperboard and Products	23,216	23,595	26,123	27,340	26,267	22,792	26,137
Paper, Paperboard and Products	52,996	53,984	58,388	61,400	60,007	51,109	58,646
Total Including Products	55,968	57,451	62,038	65,004	63,308	54,110	62,013
Real G.N.P. – $ Bil., 1982 Prices	2,416.7	2,484.8	2,608.5	2,744.1	2,729.3	2,695.0	2,826.7
Ratio of New Supply to Real GNP							
Total Paper	12.269	12.107	12.281	12.400	12.522	10.487	11.502
Newsprint	4.054	3.933	3.937	3.964	4.014	3.357	3.508
Printing/Writing Papers	4.558	4.546	4.720	4.918	4.972	4.057	4.698
Uncoated Groundwood	0.542	0.533	0.511	0.506	0.535	0.489	0.562
Coated	1.311	1.257	1.308	1.352	1.353	1.127	1.359
Uncoated Free Sheet	2.109	2.178	2.299	2.452	2.489	1.965	2.278
Thin and Cotton Fiber	0.146	0.136	0.150	0.149	0.147	0.124	0.128
Bleached Bristols	0.450	0.441	0.452	0.458	0.448	0.353	0.371
Packaging and Ind. Conv. Papers	2.126	2.092	2.107	2.055	2.047	1.608	1.822
Unbleached Kraft	1.482	1.448	1.453	1.427	1.448	1.139	1.273
Other	0.644	0.644	0.654	0.628	0.599	0.469	0.549
Tissue	1.530	1.536	1.517	1.464	1.488	1.465	1.473
Total Paperboard	9.715	9.627	10.067	10.046	9.812	8.643	9.453
Unbleach Kraft	4.079	4.015	4.363	4.363	4.309	3.891	4.277
Semichemical	1.421	1.447	1.494	1.513	1.477	1.331	1.410
Bleached Board	1.329	1.291	1.322	1.298	1.257	1.138	1.243
Recycled	2.885	2.874	2.887	2.872	2.769	2.283	2.523
Construction and Other	1.230	1.395	1.399	1.313	1.209	1.114	1.191
Total All Grades, Excluding Products	23.213	23.129	23.748	23.760	23.543	20.243	22.146
Paper and Products	12.323	12.230	12.369	12.412	12.362	10.507	11.501
Paperboard and Products	9.606	9.496	10.015	9.963	9.624	8.457	9.246
Paper, Paperboard and Products	21.929	21.726	22.384	22.375	21.986		
Total Including Products	23.159	23.121	23.783	23.689	23.196	20.078	21.938

RS – Revised Series

TABLE VIII (Cont.)

PAPER AND PAPERBOARD

PRODUCTION, NEW SUPPLY AND NEW SUPPLY/REAL G.N.P.

1963 – 1990

000 Short Tons	1977	1978	1979	1980	1981	1982	1983
Production – Total	60,040	62,048	64,345	63,600	64,259	60,951	66,748
Total Paper	27,721	28,320	29,666	30,116	30,901	30,245	32,803
Total Paperboard	28,935	30,252	31,404	30,926	31,208	29,044	32,145
Unbleached Kraft	13,651	14,373	15,151	15,295	15,602	14,535	16,122
Semichemical	4,264	4,439	4,689	4,724	4,719	4,389	4,730
Bleached Kraft	3,703	3,955	3,973	3,836	3,886	3,644	3,895
Recycled	7,317	7,485	7,591	7,071	7,001	6,476	7,398
Wet Machine Board	129	136	144	138	160	129	140
Building Paper	1,852	1,915	1,868	1,369	1,144	798	760
Insulating Board	1,403	1,425	1,263	1,051	846	735	900
New Supply							
Total Paper	34,208	35,992	37,450	37,126	37,547	36,610	40,216
Newsprint	10,081	10,788	11,159	11,377	11,694	10,948	11,597
Printing/Writing Papers	14,281	15,244	16,080	16,124	16,139	16,234	18,508
Uncoated Groundwood	1,794	1,907	2,123	2,086	2,001	2,068	2,414
Coated	4,223	4,540	4,588	4,644	4,843	4,979	5,799
Uncoated Free Sheet	6,793	7,230	7,891	8,015	7,870	7,896	8,889
Thin and Cotton Fiber	384	435	468	415	439	394	423
Bleached Bristols	1,087	1,132	1,010	964	986	897	983
Packaging and Ind. Conv. Papers	5,577	5,754	5,701	5,243	5,241	5,007	5,327
Unbleached Kraft	3,720	3,884	3,935	3,707	3,654	3,347	3,431
Other	1,857 #	1,870 #	1,766	1,536	1,587	1,660	1,896
Tissue	4,269	4,206	4,510	4,382	4,473	4,421	4,784
Total Paperboard	27,132	28,311	29,225	27,689	28,717	26,504	29,301
Unbleached Kraft	12,376	12,938	13,532	12,958	13,764	12,639	13,890
Semichemical	4,142	4,320	4,624	4,433	4,616	4,251	4,607
Bleached Board	3,314	3,522	3,477	3,287	3,330	3,119	3,380
Recycled	7,300	7,531	7,592	7,011	7,007	6,495	7,424
Construction and Other	3,464	3,737	3,598	2,968	2,468	2,025	2,210
Total All Grades, Excluding Products	64,804	68,040	70,273	67,783	68,732	65,139	71,727
Paper and Products	34,099	36,177	37,383	37,028	37,333	36,562	40,032
Paperboard and Products	26,678	27,873	28,816	27,172	28,156	26,143	28,925
Paperboard and Products	60,777	64,050	66,198	64,200	65,489	62,705	68,957
Total All Grades, Including Products	64,241	67,787	69,796	67,168	67,957	64,730	71,167
Real G.N.P. – $ Bil., 1982 Prices	2,958.6	3,115.2	3,192.4	3,187.1	3,248.7	3,166.0	3,279.1
Ratio of New Supply to Real GNP							
Total Paper	11.562	11.554	11.731	11.649	11.558	11.563	12.264
Newsprint	3.407	3.463	3.495	3.570	3.600	3.458	3.537
Printing/Writing Papers	4.827	4.893	5.037	5.059	4.968	5.128	5.644
Uncoated Groundwood	0.606	0.612	0.665	0.655	0.616	0.653	0.736
Coated	1.427	1.457	1.437	1.457	1.491	1.573	1.768
Uncoated Free Sheet	2.296	2.321	2.472	2.515	2.423	2.494	2.711
Thin and Cotton Fiber	0.130	0.140	0.147	0.130	0.135	0.124	0.129
Bleached Bristols	0.367	0.363	0.316	0.302	0.304	0.283	0.300
Packaging and Ind. Conv. Papers	1.885	1.847	1.786	1.645	1.613	1.581	1.625
Unbleached Kraft	1.257	1.247	1.233	1.163	1.125	1.057	1.046
Other	0.628	0.600	0.553	0.482	0.489	0.524	0.578
Tissue	1.443	1.350	1.413	1.375	1.377	1.396	1.459
Total Paperboard	9.171	9.088	9.155	8.688	8.840	8.371	8.936
Unbleach Kraft	4.183	4.153	4.239	4.066	4.237	3.992	4.236
Semichemical	1.400	1.387	1.448	1.391	1.421	1.343	1.405
Bleached Board	1.120	1.131	1.089	1.031	1.025	0.985	1.031
Recycled	2.467	2.418	2.378	2.200	2.157	2.051	2.264
Construction and Other	1.171	1.200	1.127	0.931	0.760	0.640	0.674
Total All Grades, Excluding Products	21.904	21.841	22.013	21.268	21.157	20.575	21.874
Paper and Products	11.525	11.613	11.710	11.618	11.492	11.548	12.208
Paperboard and Products	9.017	8.947	9.026	8.526	8.667	8.257	8.821
Paper, Paperboard and Products	20.542	20.560	20.736	20.144	20.159	19.806	21.029
Total All Grades, Including Products	21.713	21.760	21.863	21.075	20.918	20.445	21.703

NOTE: New Supply based on Tables XXXIV and XXXV imports/exports.
Data overstated by about 10%.

TABLE VIII (Cont.)

PAPER AND PAPERBOARD

PRODUCTION, NEW SUPPLY AND NEW SUPPLY/REAL G.N.P.

1983 – 1990

000 Short Tons	1984	1985	1986	1987	1988	1989	1990
Production – Total	70,248	68,683	72,505	75,949	78,085	78,356	80,352
Total Paper	34,446	34,081 R	35,550	36,917 R	38,352	38,266 R	39,359
Total Paperboard	34,002	32,922	35,355	37,442	38,233	38,519	39,423
Unbleached Kraft	17,185	16,368	17,680	18,898	19,140	19,490	20,357
Semichemical	5,169	5,088	5,376	5,536	5,664	5,691	5,710
Bleached Kraft	4,011	3,911	4,207	4,406	4,511	4,521	4,399
Recycled	7,637	7,555	8,092	8,602	8,918 R	8,817 R	8,956
Wet Machine Board E	140	130	130	120	100	100	100
Building Paper E	700	680	600	600	600	600	600
Insulating Board E	960	890	870	870	800 R	870	870
New Supply							
Total Paper	43,652	43,631	45,375	47,503	49,201	48,294	49,410
Newsprint	12,722	12,837	12,994	13,706	13,670	13,128	13,336
Printing/Writing Papers	20,568	20,658	22,132	23,487	25,006	24,448	25,458
Uncoated Groundwood	2,929 R	2,960 R	3,094 R	3,196 R	3,465 R	3,528	3,713
Coated	6,592	6,289	6,686	7,433	8,059	7,821	8,253
Uncoated Free Sheet	9,546	10,005	10,836	11,331	11,810	11,541	12,023
Thin and Cotton Fiber	478	413	447	449	472 R	382 R	324
Bleached Bristols	1,024	991	1,069	1,078	1,199	1,175	1,145
Packaging and Ind. Conv. Papers	5,428	5,158	5,106	4,990	5,031	4,982	4,718
Unbleached Kraft	3,456	3,242	3,152	2,919	2,853	2,796	2,499
Other Packg. and Indust. Conv.	1,973	1,916	1,954	2,071 R	2,178	2,186	2,219
Tissue	4,934	4,978	5,144 R	5,321	5,494	5,737	5,899
Total Paperboard	31,513	30,595	32,540	34,613	35,442	35,821	36,434
Unbleached Kraft	15,169	14,589	15,513	16,676	16,930	17,212	17,780
Semichemical	5,124	4,964	5,263	5,472	5,670	5,672	5,679
Bleached Board	3,533	3,445	3,639	3,787	3,883	3,828	3,667
Recycled	7,688	7,597	8,126	8,677 R	8,958 R	9,109 R	9,308
Construction and Other	2,222	2,048	1,846	1,792	1,691	1,724	1,701
Total All Grades, Excluding Products	77,387	76,274	79,761	83,909	86,333	85,838	87,546
Paper and Products	43,647	43,946	45,713	47,837	49,291	48,612	49,677
Paperboard and Products	31,068	30,144	32,196	33,862	34,522	34,820	35,328
Paper, Paperboard and Products	74,715	74,090	77,909	81,700	83,813	83,432	85,005
Total All Grades, Including Products	76,937	76,138	79,755	83,492	85,503	85,156	86,707
Real G.N.P. – $ Bil., 1982 Prices	3,501.4	3,618.7	3,717.9	3,845.3	4,016.9	4,117.7	4,157.3
Ratio of New Supply to Real GNP							
Total Paper	12.467	12.057	12.205	12.354	12.248	11.728	11.885
Newsprint	3.633	3.547	3.495	3.564	3.403	3.188	3.208
Printing/Writing Papers	5.874	5.709	5.953	6.108	6.225	5.937	6.124
Uncoated Groundwood	0.836	0.818	0.832	0.831	0.863	0.857	0.893
Coated	1.883	1.738	1.798	1.933	2.006	1.899	1.985
Uncoated Free Sheet	2.726	2.765	2.914	2.947	2.940	2.803	2.892
Thin and Cotton Fiber	0.137	0.114	0.120	0.117	0.117	0.093	0.078
Bleached Bristols	0.292	0.274	0.288	0.280	0.298	0.285	0.275
Packaging and Ind. Conv. Papers	1.550	1.425	1.373	1.298	1.252	1.210	1.135
Unbleached Kraft	0.987	0.896	0.848	0.759	0.710	0.679	0.601
Other	0.563	0.529	0.525	0.539	0.542	0.531	0.534
Tissue	1.409	1.376	1.384	1.384	1.368	1.393	1.419
Total Paperboard	9.000	8.455	8.752	9.001	8.823	8.699	8.784
Unbleach Kraft	4.332	4.031	4.172	4.337	4.215	4.180	4.277
Semichemical	1.463	1.372	1.415	1.423	1.412	1.377	1.366
Bleached Board	1.009	0.952	0.979	0.985	0.967	0.930	0.882
Recycled	2.196	2.099	2.186	2.257	2.230	2.212	2.239
Construction and Other	0.635	0.566	0.496	0.466	0.421	0.419	0.409
Total All Grades, Excluding Products	22.102	21.078	21.453	21.821	21.492	20.846	21.058
Paper and Products	12.466	12.144	12.295	12.440	12.271	11.806	11.949
Paperboard and Products	8.873	8.330	8.660	8.806	8.594	8.456	8.498
Paper, Paperboard and Products	21.339	20.474	20.955	21.247	20.865	20.262	20.447
Total All Grades, Including Products	21.973	21.040	21.452	21.713	21.286	20.680	20.857

R – Revised
P – Preliminary
E – Estimated by API

TABLE IX

UNITED STATES CAPACITY TO PRODUCE PAPER AND BOARD

1978 – 1993

(THOUSANDS OF TONS)

	1978	R	1979	R	1980	R	1981	1982	1983	1984	1985	
TOTAL PAPER AND BOARD	67,419		69,035		70,715		72,257	73,118	74,018	75,942	76,822	
Total Paper	30,461		31,180		32,659		33,707	34,665	35,675	37,104	37,581	
Newsprint	4,104		4,199		4,836		5,457	5,654	5,774	5,851	5,788	
Total Printing, Writing & Related	15,566		16,058		16,798		17,301	17,809	18,633	19,889	20,462	
Groundwood Uncoated	1,453		1,541		1,624		1,625	1,655	1,710	1,704	1,710	
Coated Papers – Total	4,546		4,822		4,984		5,292	5,516	5,995	6,557	6,665	
Coated Groundwood	2,450		2,554		2,762		3,047	3,242	3,522	3,766	3,820	
Coated Free Sheet	2,096		2,268		2,222		2,245	2,274	2,473	2,791	2,845	
Uncoated Free Sheet	7,847		8,152		8,645		8,828	9,039	9,354	10,058	10,515	
Cotton Fiber	131		134		139		147	161	162	181	187	
Thin	395		393		382		374	369	347	338	326	
Solid Bleached Bristols	1,194		1,016		1,024		1,035	1,069	1,065	1,051	1,059	
Total Packaging & Ind. Conv.	6,147		6,053		6,071		5,914	6,077	6,078	6,088	5,986	
Unbleached Kraft	4,223		4,098		4,110		3,961	4,091	4,065	3,972	3,808	
Bleached Pkg. & Ind. Conv.	1,041		1,105		1,095		1,083	1,080	1,119	1,148	1,104	
Specialty Pkg.	N.A.		N.A.		N.A.		554	553	569	590	519	
Bleached Pkg.	N.A.		N.A.		N.A.		529	527	550	549	585	
Special Industrial	883	R	850	R	866	R	870	906	894	968	1,074	
Tissue	4,644		4,870		4,954		5,035	5,125	5,190	5,276	5,345	
Total Paperboard	32,631		33,436		33,709		34,467	35,421	35,452	35,992	36,720	
Total Unbleached Kraft Packaging & Industrial Converting	15,054		15,546		15,967		16,738	17,401	17,510	17,834	18,144	
Linerboard	13,864		14,199		14,586		15,372	16,032	16,217	16,565	16,739	
Folding Boxboard	650		827		852		799	860	800	792	905	
Other	540		520		529		567	509	493	477	500	
Total Bleached Packaging Paperboard	4,196		4,268		4,181		4,141	4,123	4,130	4,185	4,370	
Folding Boxboard	1,996		2,061		1,954		1,966	1,988	1,992	2,095	2,223	
Milk Carton & Food Service	1,899		1,877		1,865		1,839	1,812	1,812	1,771	1,843	
Linerboard	122		137		116		106	104	111	119	131	
Other	179		193		246		230	219	215	200	173	
Semichemical Paperboard	4,739		4,864		4,946		4,968	5,207	5,119	5,252	5,411	
Total Recycled Paperboard	8,642		8,758		8,615		8,600	8,690	8,693	8,721	8,795	
Linerboard	361		432		509		463	379	395	393	422	
Corrugating Medium	1,343		1,392		1,330		1,349	1,478	1,427	1,524	1,523	
Container Chip & Filler	311		287		283		309	273	247	228	53	@
Folding	2,568		2,615		2,593		2,633	2,676	2,671	2,626	2,640	
Set–up	418		404		349		335	331	324	296	289	
Gypsum Wall Board Facing	1,238		1,273		1,238		1,251	1,255	1,217	1,249	1,265	
Other	2,403		2,355		2,313		2,260	2,298	2,412	2,405	2,603	@
Total Paper and Paperboard	63,092		64,616		66,368		68,174	70,086	71,127	73,096	74,301	
Total Wet Machine Board	145		154		163		157	160	173	170	160	
Total Construction Paper & Board	4,182		4,265		4,184		3,926	2,872	2,718	2,676	2,161	
Construction Paper	2,352		2,380		2,345		2,111	1,306	1,234	1,227	937	
Insulating Board	1,830		1,885		1,839		1,815	1,566	1,484	1,449	1,224	
Total Hard Pressed Board ##	2,556	#	2,556	#	2,556		N.A.	N.A.	N.A.	N.A.	N.A.	

SOURCE: American Paper Institute, Paper, Paperboard and Wood Pulp Capacity Survey, various issues to December 1990.

– As reported in 1976 Capacity Survey. N.A. – Not Available.

– Hard pressed Board not included in Total Paper and Board. @ – See page 31. R – Revised.

TABLE IX (Cont.)

UNITED STATES CAPACITY TO PRODUCE PAPER AND BOARD

1978 – 1993

(THOUSANDS OF TONS)

	1986	1987	1988	1989R	1990F	1991F	1992F	1993F
TOTAL PAPER AND BOARD	77,922	80,341	82,662	84,316	86,181	89,416	91,676	93,683
Total Paper	38,013	39,081	40,211	41,165	42,212	43,969	45,135	45,923
Newsprint	5,804	6,006	6,115	6,296	6,828	7,151	7,335	7,430
Total Printing, Writing & Related	20,980	22,078	23,027	23,637	23,942	25,089	25,918	26,488
Groundwood Uncoated	1,685	1,653	1,735	1,874	1,924	1,920	1,929	1,933
Coated Papers – Total	6,743	7,365	7,783	7,844	8,036	8,576	8,982	9,185
Coated Groundwood	3,799	4,136	4,347	4,341	4,398	4,553	4,596	4,628
Coated Free Sheet	2,944	3,229	3,436	3,503	3,638	4,023	4,386	4,557
Uncoated Free Sheet	11,023	11,493	11,853	12,092	12,145	12,717	13,104	13,396
Cotton Fiber	192	198	203	202	202	203	203	203
Thin	312	290	282	281	270	261	258	255
Solid Bleached Bristols	1,025	1,079	1,171	1,345	1,365	1,412	1,443	1,514
Total Packaging & Ind. Conv.	5,757	5,492	5,402	5,435	5,466	5,615	5,647	5,655
Unbleached Kraft	3,579	3,295	2,908	2,809	2,795	2,811	2,772	2,748
Bleached Pkg. & Ind. Conv.	1,092	1,066	1,077	1,155	1,175	1,253	1,285	1,295
Specialty Pkg.	554	565	638	644	685	728	752	757
Bleached Pkg.	538	501	439	511	490	525	533	538
Special Industrial	1,086	1,131	1,417	1,471	1,496	1,551	1,591	1,615
Tissue	5,472	5,505	5,667	5,798	5,976	6,113	6,235	6,349
Total Paperboard	37,765	39,106	40,321	40,993	41,828	43,292	44,384	45,604
Total Unbleached Kraft Packaging & Industrial Converting	18,622	19,422	20,269	20,878	21,338	22,180	22,785	22,829
Linerboard	17,175	17,949	18,705	19,192	19,611	20,271	20,779	20,770
Folding Boxboard	946	1,000	1,055	1,183	1,242	1,424	1,521	1,572
Other	501	473	509	503	485	485	486	487
Total Bleached Packaging Paperboard	4,577	4,734	4,732	4,716	4,619	4,843	5,056	5,289
Folding Boxboard	2,341	2,364	2,323	2,298	2,309	2,484	2,638	2,789
Milk Carton & Food Service	1,926	2,031	2,017	1,961	1,856	1,915	1,969	2,058
Linerboard	135	148	170	194	192	175	159	161
Other	175	191	222	263	261	269	271	281
Semichemical Paperboard	5,557	5,682	5,788	5,781	5,845	5,812	5,982	6,072
Total Recycled Paperboard	9,009	9,268	9,532	9,617	10,026	10,456	10,560	11,415
Linerboard	467	515	494	458	539	760	770	1,453
Corrugating Medium	1,580	1,685	1,947	2,042	2,229	2,328	2,368	2,402
Container Chip & Filler	42 @	40	35	**	**	**	**	**
Folding	2,662	2,661	2,601	2,569	2,628	2,687	2,712	2,822
Set-up	272	275	288	313	314	315	316	316
Gypsum Wall Board Facing	1,349	1,386	1,411	1,393	1,373	1,383	1,400	1,418
Other	2,637 @	2,706	2,756	2,842	2,943	2,983	2,994	3,004
Total Paper and Paperboard	75,778	78,187	80,532	82,158	84,040	87,260	89,519	91,527
Total Wet Machine Board	154	153	121	118	118	122	122	122
Total Construction Paper & Board	1,990	2,001	2,009	2,039	2,023	2,034	2,036	2,036
Construction Paper	834	822	830	826	837	848	849	849
Insulating Board	1,156	1,179	1,179	1,213	1,186	1,186	1,186	1,186

SOURCE: American Paper Institute, Paper, Paperboard and Wood Pulp Capacity Survey, various issues to December 1990.

F – Forecast as reported in December 1990 Capacity Survey.

@ – Reflects shift of 160,000 tons of a non-containerboard grade to "other" recycled paperboard.

** Container Chip and Filler Board included with Corrugating Medium.

TABLE X

WOOD PULP CAPACITY

1978 - 1993

(Thousands of Tons)

	1978	1979	1980	1981	1982	1983	1984	1985
TOTAL ALL GRADES (1)	52,715	53,636	55,212	56,830	57,639	57,591	59,000	59,615
TOTAL EXCLUDING CONSTRUCTION	50,789	51,636	53,213	54,890	56,126	56,144	57,742	58,641
Dissolving and Special Alpha	1,573	1,551	1,590	1,598	1,606	1,525	1,487	1,454
Chemical Paper Grades Total	39,998	40,896	41,892	43,143	43,972	44,285	45,479	46,544
Sulfite, Paper Grades Total	2,095	2,004	1,909	1,855	1,780	1,789	1,750	1,738
Bleached Total	1,675	1,595	1,512	1,464	1,383	1,404	1,445	1,482
Unbleached	420	409	397	391	397	385	305	256
Sulfate and Soda Total	37,903	38,892	39,983	41,288	42,192	42,496	43,729	44,806
Bleached & Semi-Bleached Total	18,171	18,969	19,695	20,316	20,757	21,290	22,357	23,624
Hardwood	7,729	8,072	8,356	8,559	8,705	9,179	9,867	10,750
Softwood	10,442	10,897	11,339	11,757	12,052	12,111	12,490	12,874
Unbleached	19,732	19,923	20,288	20,972	21,435	21,206	21,372	21,182
Semichemical Total	4,573	4,553	4,601	4,597	4,734	4,489	4,625	4,650
Bleached	339	336	384	350	356	367	381	395
Unbleached	4,234	4,217	4,217	4,247	4,378	4,122	4,244	4,255
Mechanical Total (Groundwood)	6,506	6,573	7,068	7,434	7,293	7,261	7,380	6,938
For Paper and Board	4,580	4,573	5,069	5,494	5,780	5,814	6,122	5,964
Stone Groundwood	3,328	3,255	3,212	3,239	3,260	3,146	3,168	3,006
Refiner	533	507	486	489	472	480	501	459
Thermo-Mechanical	719	811	1,371	1,766	2,048	2,188	2,453	2,499
For Other Paper and Board	1,926	2,000	1,999	1,940	1,513	1,447	1,258	974
Stone and Refiner	529	594	647	651	628	576	469	269
Defibrated and Exploded	1,397	1,406	1,352	1,289	885	871	789	705
Screenings	65	63	61	58	34	31	29	29
MARKET PULP								
Total All Grades	5,746	6,334	6,802	6,971	7,080	7,414	7,530	7,989
Dissolving	1,573	1,551	1,576	1,579	1,598	1,519	1,487	1,446
Chemical Paper Grades	4,069	4,682	5,130	5,375	5,470	5,881	6,029	6,529
Sulfate	3,760	4,332	4,761	5,034	5,182	5,529	5,727	6,227
Bl. and Semi-Bleached	3,653	4,228	4,589	4,867	5,040	5,372	5,582	6,083
Unbleached	107	104	172	167	142	157	145	144
Sulfite	309	350	369	341	288	352	302	302
All Other	104	101	96	17	12	14	14	14

(1) Excludes defribrated and exploded wood pulp for hard pressed board.
R - Revised.

TABLE X (Cont.)

WOOD PULP CAPACITY

1978 - 1993

(Thousands of Tons)

	1986	1987	1988	1989 R	1990 F	1991 F	1992 F	1993 F
TOTAL ALL GRADES (1)	60,686	62,077	63,756	65,026	69,216	68,132	69,804	69,884
TOTAL EXCLUDING CONSTRUCTION	59,750	61,173	62,951	64,289	68,504	67,440	69,113	69,193
Dissovling and Special Alpha	1,399	1,389	1,450	1,465	4,524	1,527	1,527	1,527
Chemical Paper Grades	47,655	48,825	50,278	51,430	52,419	54,251	55,879	56,024
Sulfite, Paper Grades Total	1,703	1,646	1,627	1,644	1,658	1,671	1,685	1,638
Bleached	1,502	1,460	1,442	1,459	1,477	1,489	1,503	1,457
Unbleached	201	186	185	185	182	182	182	182
Sulfate and Soda Total	45,952	47,179	48,651	49,786	50,761	52,580	54,194	54,386
Bleached & Semi-Bleached Total	24,571	25,446	26,506	27,321	27,873	29,126	30,513	31,020
Hardwood	11,402	11,823	12,450	13,125	13,497	14,244	15,016	15,215
Softwood	13,169	13,623	14,056	14,196	14,376	14,882	15,497	15,805
Unbleached	21,381	21,733	22,145	22,465	22,888	23,454	23,681	23,366
Semichemical Total	4,631	4,697	4,788	4,753	4,688	4,714	4,713	4,706
Bleached	404	408	369	376	379	379	379	379
Unbleached	4,227	4,289	4,419	4,377	4,309	4,334	4,334	4,327
Mechanical Total (Groundwood)	6,994	7,160	7,236	7,373	7,581	7,636	7,681	7,623
For Paper and Board	6,058	6,256	6,431	6,636	6,869	6,944	6,989	6,931
Stone Groundwood	2,996	2,942	2,986	3,037	3,059	3,052	3,066	3,072
Refiner	402	348	345	354	344	334	325	316
Thermo-Mechanical	2,660	2,966	3,100	3,245	3,466	3,558	3,599	3,543
For Other Paper and Board	936	904	805	737	712	692	692	692
Stone and Refiner	269	275	222	220	197	177	177	177
Defibrated and Exploded	667	629	583	517	515	515	515	515
Screenings	7	6	4	4	4	5	5	5
MARKET PULP								
Total All Grades	8,039	8,505	8,908	9,046	9,400	9,786	10,606	10,643
Dissolving	1,395	1,388	1,450	1,465	1,524	1,527	1,527	1,527
Chemical Paper Grades	6,630	7,103	7,451	7,581	7,876	8,259	9,079	9,116
Sulfate	6,343	6,819	7,178	7,319	7,603	7,986	8,806	8,838
Bl. and Semi-Bleached	6,198	6,651	6,991	7,151	7,447	7,830	8,650	8,682
Unbleached	145	168	187	168	156	156	156	156
Sulfite	287	284	273	262	274	274	274	279
All Other	14	14	7	0	0	0	0	0

F - Forecast

TABLE XI

IMPORTS

1985 - 1990

WOOD PULP, PAPER, PAPERBOARD AND PRODUCTS

	1985		1986		1987	
	Tons	$ 000	Tons	$ 000	Tons	$ 000
TOTAL ALL GRADES	16,074,779	7,457,128	16,617,526	7,860,746	17,814,681	9,016,321
WOOD PULP, ALL GRADES, TOTAL	4,465,746	1,520,907	4,581,760	1,601,378	4,850,238	2,069,394
Dissolving and Special Alpha	175,011	58,956	254,699	87,725	197,531	80,701
Sulfite, Paper Grades, Total	424,510	159,609	482,205	168,299	508,560	203,891
Bleached	313,592	125,268	350,520	129,490	352,543	158,234
Unbleached	110,918	34,341	131,685	38,809	156,017	45,657
Sulfate and Soda, Paper Grades, Total	3,679,000	1,251,781	3,737,348	1,312,408	3,947,335	1,718,792
Bleached	3,496,344	1,193,242	3,570,693	1,256,971	3,795,005	1,656,510
Semi-Bleached	57,248	19,542	54,385	20,645	56,973	24,804
Unbleached	125,408	38,997	112,270	34,792	95,357	37,478
Groundwood	111,501	28,662	51,921	13,010	92,558	28,532
Other*	75,724	21,899	55,587	19,936	104,254	37,478
WASTE PAPER	87,413	10,160	99,313	11,182	127,398	19,231
PAPER, PAPERBOARD AND PRODUCTS, TOTAL	11,521,620	5,697,842	11,936,453	6,035,848	12,837,045	6,927,696
PAPER, PAPERBOARD AND OTHER, TOTAL	11,238,094	5,074,513	11,546,546	5,247,127	12,435,486	5,995,122
PAPER, TOTAL	10,637,427	4,906,913	10,925,453	5,051,916	11,765,207	5,768,703
Newsprint	8,496,568	3,638,716	8,587,507	3,682,351	8,986,548	4,121,327
Printing & Writing Paper, Total	1,912,867	1,116,255	2,029,303	1,179,802	2,410,217	1,412,458
Groundwood, Uncoated	1,027,211	530,619	1,028,231	531,149	1,269,774	654,767
Coated and Impregnated Paper	496,072	363,885	501,382	359,495	674,531	467,865
Uncoated Free Sheet	364,848	198,432	453,639	254,627	417,395	249,943
Uncoated Book	200,927	106,586	223,798	126,278	210,624	119,775
Writing Papers	163,921	91,846	229,841	128,349	206,771	130,168
Other Fine Paper	-	-	-	-	-	-
Thin Paper	23,712	22,276	45,351	33,831	47,567	38,831
Bristols	1,024	1,043	700	700	950	1,052
Packaging & Industrial Paper, Total	172,002	116,391	242,570	146,211	310,321	191,619
Unbleached Kraft	63,604	23,976	115,008	42,650	168,420	69,828
Other Packaging & Converting	85,052	56,429	101,841	63,002	107,904	65,428
Glassine & Greaseproof	15,027	20,881	15,158	20,822	21,130	31,230
Vegetable Parchment	1,165	1,700	1,412	2,000	1,488	2,398
Special Industrial Paper	7,154	13,405	9,151	17,737	11,379	22,735
Non-Kraft Wrapping	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Tissue Paper	55,990	35,551	66,073	43,552	58,121	43,299
PAPERBOARD, TOTAL	184,201	55,875	281,449	87,818	360,831	127,461
Test or Containerboard	50,975	16,848	78,063	25,596	80,981	29,352
Semichemical Corrugating	65,203	13,706	99,062	22,092	128,636	33,898
Other Paperboard	68,023	25,321	104,324	40,130	151,214	64,211
WET MACHINE BOARD	3,270	2,585	3,235	2,525	3,463	2,638
CONSTRUCTION PAPER & BOARD, TOTAL	413,196	109,140	336,409	104,868	305,985	96,320
Building Paper	289,195	68,691	202,336	59,639	198,783	56,532
Insulating and Other Building Board	124,001	40,449	134,073	45,229	107,202	39,788
PAPER AND PAPERBOARD PRODUCTS, TOTAL	283,526	623,329	389,907	788,721	401,559	932,574
PAPER PRODUCTS, TOTAL	258,934	572,325	361,517	730,257	368,179	866,121
Printing & Book Paper	37,226	148,241	49,474	198,654	55,943	248,208
Writing & Related Paper	154,727	340,143	203,200	416,344	234,725	508,182
Special Industrial Paper	16,773	36,407	40,243	53,154	22,952	55,886
Tissue Paper	50,208	47,534	68,600	62,105	54,559	53,845
PAPERBOARD PRODUCTS, TOTAL	24,592	51,004	28,390	58,464	33,380	66,453

* Includes Mixtures and Screenings ** Included with Sulfate Pulp Imports

NOTE: Dollar figures for the value of shipments for which no tonnage figures were given are shown below. They are not included in the subtotals, but are in the Total All Grades: ($ 000) $228,219 $212,338 $201,453

TABLE XI (Cont'd)

IMPORTS

1985 - 1990

WOOD PULP, PAPER, PAPERBOARD AND PRODUCTS

	1988		1989		1990	
	Tons	$000	Tons	$000	Tons	$000
TOTAL ALL GRADES	18,309,754	10,692,833	18,276,870	11,343,301	18,164,075	11,284,336
WOOD PULP, ALL GRADES, TOTAL	5,038,158	2,663,424	5,004,366	2,980,197	4,893,355	2,831,327
Dissolving and Special Alpha	248,456	131,587	284,072	183,680	221,978	132,821
Sulfite, Paper Grades, Total	385,081	201,455	397,849	239,464	319,833	190,626
Bleached	331,899	179,673	358,284	218,859	290,368	176,391
Unbleached	53,182	21,782	39,565	20,605	29,465	14,235
Sulfate and Soda, Paper Grades, Total	4,033,856	2,198,263	3,971,850	2,427,698	4,006,085	2,375,955
Bleached	3,859,586	2,110,794	3,753,249	2,303,180	3,832,214	2,283,797
Semi-Bleached	66,930	35,456	131,816	79,753	79,553	48,789
Unbleached	107,340	52,013	86,785	44,765	94,318	43,369
Groundwood	237,971	78,777	181,049	63,939	155,629	59,766
Other *	132,794	53,342	169,546	65,416	189,830	72,160
WASTE PAPER	161,367	27,361	172,575	33,197	122,539	26,349
PAPER, PAPERBOARD AND PRODUCTS, TOTAL	13,110,229	8,002,048	13,099,929	8,329,907	13,148,181	8,426,660
PAPER, PAPERBOARD AND OTHER, TOTAL	12,727,246	7,038,168	12,537,471	7,231,649	12,728,761	7,426,949
PAPER, TOTAL	12,063,790	6,799,044	11,814,260	6,900,798	11,961,306	7,077,036
Newsprint	8,801,503	4,569,853	8,553,401	4,379,613	8,299,557	4,247,131
Printing & Writing Paper, Total	2,859,529	1,948,907	2,732,976	1,996,140	3,104,863	2,248,424
Groundwood, Uncoated	1,362,642	792,881	1,304,114	817,785	1,337,581	843,550
Coated and Impregnated Paper	797,765	641,466	774,022	632,484	936,046	749,082
Uncoated Free Sheet	591,829	414,326	583,077	462,404	752,447	564,479
Uncoated Book	258,146	175,746	N.L.R.	N.L.R.	N.L.R.	N.L.R.
Writing Papers	333,683	238,580	583,077	462,404	752,447	564,479
Other Fine Paper	-	-	-	-	-	-
Thin Paper	55,774	48,804	12,711	15,200	11,365	14,296
Bristols	51,519	51,430	59,052	68,267	67,424	77,017
Packaging & Industrial Paper, Total	343,197	231,796	407,086	414,354	425,697	462,237
Unbleached Kraft	161,708	76,116	239,303	116,011	235,352	116,655
Other Packaging & Converting	146,120	94,119	19,012	18,675	22,638	22,841
Glassine & Greaseproof	22,601	34,611	20,147	31,828	22,059	34,607
Vegetable Parchment	1,611	2,941	1,695	3,167	1,514	2,953
Special Industrial Paper	11,157	24,009	126,088	243,395	143,175	283,812
Non-Kraft Wrapping	N.A.	N.A.	841	1,278	959	1,369
Tissue Paper	59,561	48,408	120,797	110,691	131,185	119,244
PAPERBOARD, TOTAL	341,011	130,713	533,486	280,447	626,213	307,261
Test or Containerboard	85,682	36,145	85,048	34,401	113,629	48,929
Semichemical Corrugating	142,490	43,596	118,176	36,462	111,935	31,152
Other Paperboard	112,839	50,972	330,262	209,584	400,649	227,180
WET MACHINE BOARD	4,239	3,780	606	580	1,132	991
CONSTRUCTION PAPER & BOARD, TOTAL	318,206	104,631	189,119	49,824	140,110	41,661
Building Paper	192,498	49,454	189,119	49,824	140,110	41,661
Insulating and Other Building Board	125,708	55,177	***	***	***	***
PAPER AND PAPERBOARD PRODUCTS, TOTAL	382,983	963,880	562,458	1,098,258	419,420	999,711
PAPER PRODUCTS, TOTAL	345,817	895,813	470,472	924,729	313,807	807,967
Printing & Book Paper	51,134	247,337	47,246	224,696	47,403	240,451
Writing & Related Paper	241,695	557,631	93,996	206,444	69,168	186,096
Special Industrial Paper	16,415	47,886	197,876	190,429	114,888	228,453
Tissue Paper	36,573	42,959	131,354	303,160	82,348	152,967
PAPERBOARD PRODUCTS, TOTAL	37,166	68,067	91,986	173,529	105,613	191,744

* Includes Mixtures and Screenings ** Included with Sulfate Pulp Imports *** Transferred to SIC 24 N.L.R. - No Longer Reported

NOTE: Dollar figures for the value of shipments for which no tonnage figures were given are shown below. They are not included in the subtotals, but are in the Total All grades: ($ 000) $177,686 $136,624 $136,809

Chart 7

U.S. IMPORTS EXCLUDING NEWSPRINT

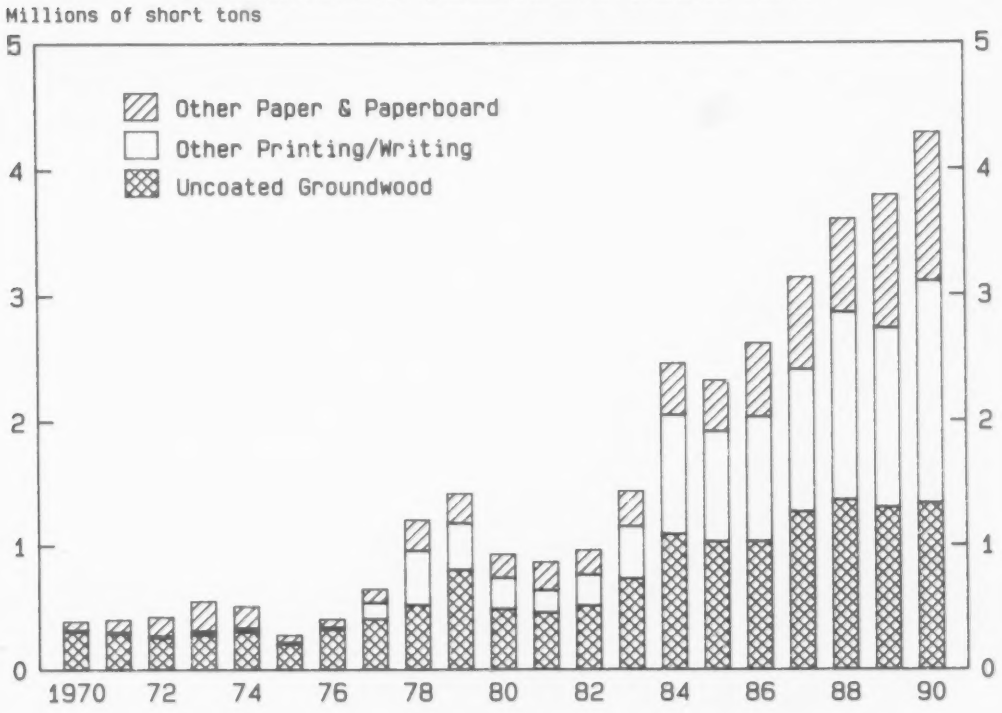


Chart 8

U.S. EXPORTS OF PAPER AND PAPERBOARD

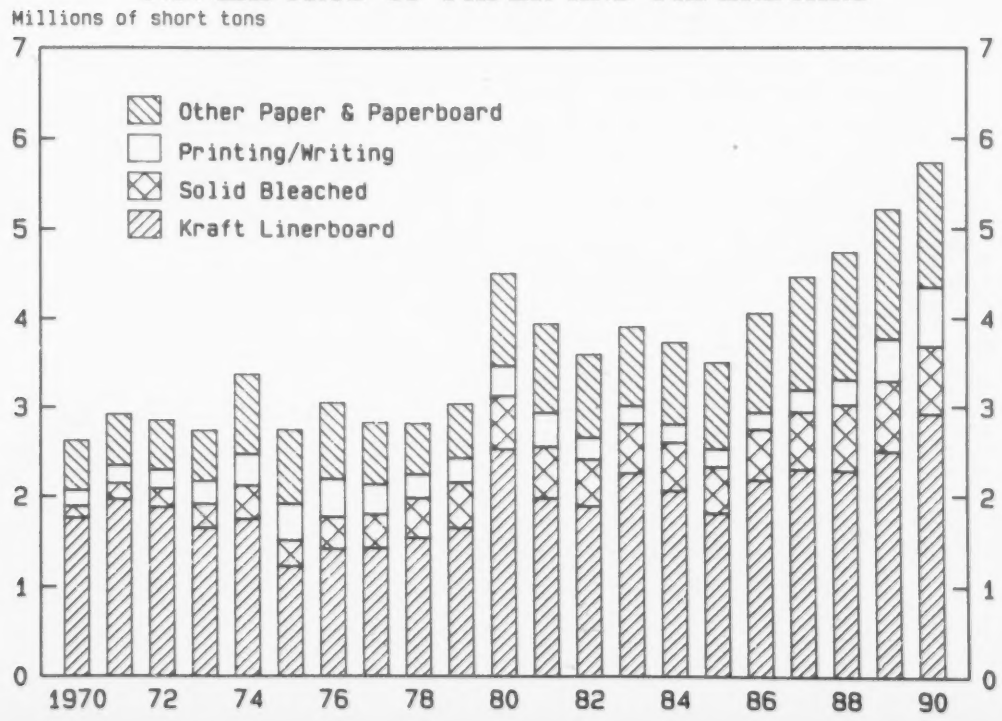


Chart 9

U.S. EXPORTS OF TOTAL PAPER & TOTAL PAPERBOARD

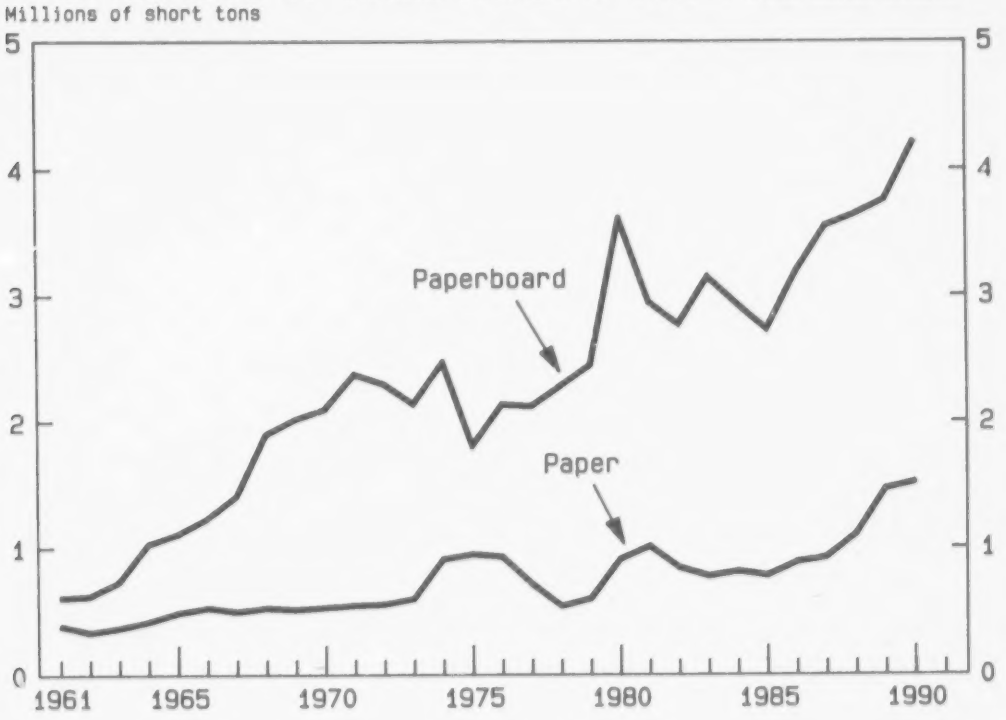


Chart 10

U.S. EXPORTS OF TOTAL WOOD PULP AND WASTE PAPER

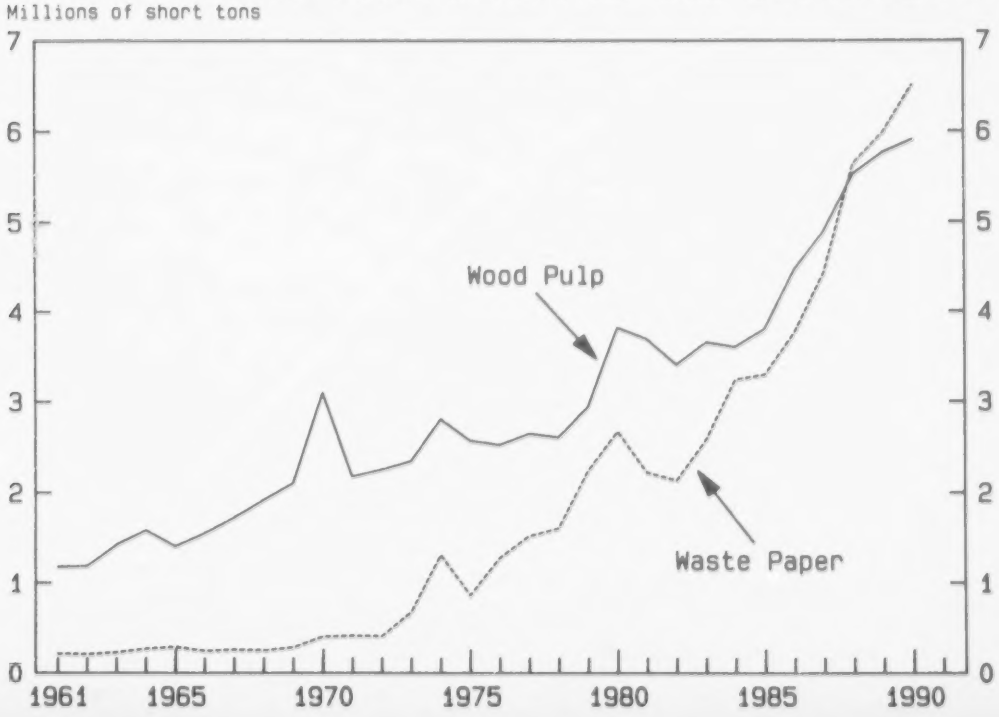


TABLE XII

EXPORTS

1985 - 1990

WOOD PULP, PAPER, PAPERBOARD AND PRODUCTS

	1985		1986		1987	
	Tons	$ 000	Tons	$ 000	Tons	$ 000
TOTAL ALL GRADES	11,259,709	4,041,197	13,051,329	4,685,586	14,797,719	6,007,910
WOOD PULP ALL GRADES, TOTAL	3,795,102	1,353,758	4,458,317	1,662,465	4,889,331	2,259,377
Dissolving and Special Alpha	630,862	299,186	711,086	339,148	751,825	385,612
Sulfite, Paper Grades, Total	272,288	93,216	343,943	110,831	413,449	165,129
Bleached	250,047	87,873	317,493	104,110	375,020	157,947
Unbleached	22,241	5,343	26,450	6,721	38,429	7,182
Sulfate and Soda, Paper Grades, Total	2,862,933	951,684	3,344,619	1,197,590	3,697,621	1,698,130
Bleached	2,727,183	914,977	3,181,631	1,151,427	3,531,681	1,635,111
Semi-Bleached	40,543	13,150	18,781	6,388	7,747	2,811
Unbleached	95,207	23,557	144,207	39,775	158,193	60,208
Mechanical, Semi-Chemical & Other	29,019	9,672	58,669	14,896	26,436	10,506
COTTON PULP & OTHER FIBER	107,224	71,802	157,452	72,500	182,001	91,365
WASTE PAPER	3,285,926	349,258	3,748,711	411,076	4,422,139	553,348
PAPER, PAPERBOARD AND PRODUCTS, TOTAL	4,071,457	2,266,379	4,686,849	2,539,545	5,304,248	3,103,820
PAPER, PAPERBOARD AND OTHER, TOTAL	3,580,547	1,586,235	4,160,284	1,853,748	4,579,052	2,280,421
PAPER, TOTAL	779,000	594,337	883,768	642,728	921,419	776,226
Newsprint	314,385	131,379	392,232	194,550	339,773	210,093
Printing & Writing Paper, Total	202,826	201,844	190,677	185,275	249,092	242,639
Uncoated Groundwood	36,779	31,727	40,850	28,947	55,841	39,751
Coated Printing and Converting	82,461	64,623	78,253	57,858	100,839	72,144
Coated Groundwood	36,444	31,922	36,388	28,356	39,284	28,592
Coated Book	46,017	32,701	41,865	29,502	61,555	43,552
Uncoated Free Sheet	64,573	79,015	50,148	71,355	67,858	99,330
Cotton Fiber	4,286	7,493	4,479	5,843	4,084	6,117
Thin (ex. cigarette)	13,333	17,603	14,533	19,167	18,409	23,331
Bristols	1,389	1,383	2,414	2,105	2,061	1,966
Other	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Packaging & Industrial Paper, Total	243,671	242,909	284,098	241,551	294,222	292,704
Unbl. Kraft Pkg & Ind.Conv., Total	67,695	29,931	78,250	32,011	89,194	40,758
Unbleached Kraft exc. Ship. Sack	29,032	15,595	20,883	11,343	23,543	15,670
Shipping Sack	38,663	14,336	57,367	20,668	65,651	25,088
Glassine, Greaseproof & Veg. Pa	6,189	9,597	3,976	9,482	6,182	13,525
Other Pkg. & Industrial Converting	31,917	22,347	36,435	26,495	34,022	23,266
Special Industrial, Total	137,870	181,034	165,437	173,563	164,824	215,155
Tissue Paper	18,118	18,205	16,761	21,352	38,332	30,790
PAPERBOARD TOTAL	2,732,738	952,191	3,182,468	1,159,122	3,550,281	1,444,974
Kraft Linerboard (a)	1,807,151	480,909	2,177,426	635,749	2,296,633	812,161
Other Kraft Paperboard (Unbleached)	100,651	41,053	157,615	57,547	210,566	78,596
Corrugating Medium Semichemical	61,853	15,293	76,643	21,712	63,951	22,938
Bleached Packaging Paperboard, Total	517,519	333,103	571,304	359,957	647,803	407,924
Milk Carton	378,814	244,935	417,029	264,142	452,176	290,326
Folding Boxboard	110,721	67,578	119,999	72,479	150,029	90,190
Plate, Dish, Tray & Cup	9,896	7,104	14,703	9,596	28,332	14,576
Other	18,088	13,486	19,573	13,740	17,266	12,832
Recycled Furnish Paperboard, Total	245,564	81,833	199,480	84,157	331,328	123,355
Boxboard & Related Boards (b)	56,213	30,232	10,218	5,008	6,841	4,095
Containerboard	65,215	16,586	54,436	14,943	238,467	97,440
Other Paperboard	124,136	35,015	134,826	64,206	86,020	21,820
WET MACHINE BOARD	13,380	6,930	18,895	7,258	17,328	7,816
CONSTRUCTION PAPER $ BOARD, TOTAL	55,429	32,777	75,153	44,640	90,024	51,405
Building Paper	21,671	13,344	25,935	15,905	33,779	22,491
Insulating & Other Building Board	33,758	19,433	49,218	28,735	56,245	28,914
PAPER AND PAPERBOARD PRODUCTS, TOTAL	490,910	680,144	526,565	685,797	725,196	823,399
PAPER PRODUCTS, TOTAL	237,191	464,174	240,221	456,434	301,202	540,681
Cig. Paper Cut to Size, Books, etc.	14,939	39,710	15,416	37,718	17,295	43,497
PAPERBOARD PRODUCTS, TOTAL	253,719	215,970	286,344	229,363	423,994	282,718

NOTE: Dollar figures for the value of shipments for which no tonnage figures were given are shown below. They are not included in the sub-totals, but are in the Total, All Grades: ($ 000) $6,618 $7,298 $8,037

(a) Contains Bleached Kraft Linerboard reported as follows: (Tons) 1985 - 130,358; 1986 - 133,787; 1987 - 102,266.

(b) Excludes Recycled Corrugating Medium *** Transferred to SIC 24

TABLE XII (Cont.)

EXPORTS

1985 - 1990

WOOD PULP, PAPER, PAPERBOARD AND PRODUCTS

	1988		1989		1990 #	
	Tons	$ 000	Tons	$ 000	Tons	$ 000
TOTAL ALL GRADES	17,061,210	7,476,535	18,168,349	8,627,610	19,342,230	9,075,344
WOOD PULP ALL GRADES, TOTAL	5,528,292	2,914,522	5,765,914 R	3,512,604	5,905,338	3,155,671
Dissolving and Special Alpha	864,924	503,610	797,819	571,681	781,598	504,092
Sulfite, Paper Grades, Total	422,273	193,618	369,246	230,575	407,262	210,864
Bleached	392,117	179,384	352,376	222,310	388,633	204,867
Unbleached	30,156	14,234	16,870	8,265	18,629	5,997
Sulfate and Soda, Paper Grades, Total	4,190,314	2,196,460	4,543,603	2,690,692	4,672,877	2,428,257
Bleached	3,990,532	2,107,402	4,368,172	2,618,670	4,449,534	2,349,195
Semi-Bleached	25,777	7,099	15,100	7,610	36,801	12,803
Unbleached	174,005	81,959	160,331	64,412	186,542	66,259
Mechanical, Semi-Chemical & Other	50,781	20,834	55,246	19,656	43,601	12,458
COTTON PULP & OTHER FIBER	201,567	111,923	122,045	100,510	135,632	104,808
WASTE PAPER	5,640,118	688,258	5,980,620	729,797	6,504,870	779,687
PAPER, PAPERBOARD AND PRODUCTS, TOTAL	5,691,233	3,752,662	6,299,770	4,261,034	6,796,390	5,035,178
PAPER, PAPERBOARD AND OTHER, TOTAL	4,876,564	2,701,406	5,259,734	2,982,685	5,748,622	3,449,743
PAPER, TOTAL	1,102,489	988,031	1,465,752	1,233,526	1,519,052	1,455,104
Newsprint	427,296	295,474	624,798	357,381	535,993	293,182
Printing & Writing Paper, Total	287,207	313,047	478,200	465,168	664,824	717,699
Uncoated Groundwood	70,286	58,639	88,056	64,766	75,299	63,574
Coated Printing and Converting	97,463	79,730	168,538	131,418	218,684	215,289
Coated Groundwood	46,211	39,955	117,002	81,378	136,957	121,609
Coated Book (1989-90 Coated Free Sheet)	51,252	39,775	51,536	50,040	81,727	93,680
Uncoated Free Sheet	82,660	124,049	122,346	166,830	232,369	306,127
Cotton Fiber (1989-90 Inc. in Unc. Free Sheet)	6,026	8,687	695	1,861	443	884
Thin (ex. cigarette)	28,129	39,532	40,552	56,423	45,631	56,795
Bristols	2,643	2,410	46,721	34,053	75,171	61,870
Other	N.A.	N.A.	11,987	11,678	17,671	14,044
Packaging & Industrial Paper, Total	346,718	342,117	342,042	380,790	283,583	403,949
Unbl. Kraft Pkg & Ind.Conv., Total	110,075	54,975	125,818	60,318	112,828	60,480
Unbleached Kraft exc. Ship. Sack	24,429	19,729	30,482	18,856	32,646	23,265
Shipping Sack	85,646	35,246	95,336	41,462	80,182	37,214
Glassine, Greaseproof & Veg. Parch.	32,336	37,146	8,729	7,106	4,875	7,433
Other Pkg. & Industrial Converting	19,723	11,381	62,625	34,616	30,702	27,651
Special Industrial, Total	184,584	238,615	144,870	278,750	135,178	308,386
Tissue Paper	41,268	37,393	20,712	30,187	34,651	40,273
PAPERBOARD TOTAL	3,642,199	1,644,315	3,757,705	1,734,402	4,219,699	1,988,145
Kraft Linerboard (a)	2,281,362	887,846	2,499,716	935,364	2,924,140	1,076,705
Other Kraft Paperboard (Unbleached)	292,437	102,638	246,575	113,315	253,945	144,169
Corrugating Medium Semichemical	42,360	18,060	31,162	14,494	50,466	17,769
Bleached Packaging Paperboard, Total	742,919	502,514	795,305	582,978	764,550	628,859
Milk Carton	504,372	337,463	529,237	392,697	452,637	378,050
Folding Boxboard	193,105	133,872	193,818	148,479	186,026	160,199
Plate, Dish, Tray & Cup	26,796	18,289	20,575	16,548	22,232	19,802
Other	18,646	12,890	51,675	25,254	103,655	70,809
Recycled Furnish Paperboard, Total	283,121	133,257	184,947	88,251	226,598	120,643
Boxboard & Related Boards (b)	95,232	46,115	21,783	12,514	57,139	29,056
Containerboard	68,142	28,496	89,098	32,883	54,956	19,279
Other Paperboard	119,747	58,646	74,066	42,854	114,503	72,307
WET MACHINE BOARD	11,691	4,915	2,889	1,256	487	232
CONSTRUCTION PAPER & BOARD, TOTAL	120,185	64,145	33,388	13,501	9,384	6,262
Building Paper	34,652	24,893	33,388	13,501	9,384	6,262
Insulating & Other Building Board	85,533	39,252	***	***	***	***
PAPER AND PAPERBOARD PRODUCTS, TOTAL	814,669	1,051,256	1,040,036	1,278,349	1,047,768	1,585,435
PAPER PRODUCTS, TOTAL	367,548	682,281	473,435	832,806	440,793	1,012,642
Cig. Paper Cut to Size, Books, etc.	22,307	59,827	22,808	62,101	23,564	80,377
PAPERBOARD PRODUCTS, TOTAL	447,121	368,975	566,601	445,543	606,975	572,793

NOTE: Dollar figures for the value of shipment for which no tonnage figures were given are shown below. They are not included in the sub-totals, but are in the Total, All Grades: ($ 000) $9,170 $23,665 $49,964

(a) Contains Bleached Kraft Linerboard reported as follows: (Tons) 1988 - 140,801; 1989 - 283,113; 1990 - 335,444.

(b) Excludes Recycled Corrugating Medium *** Transferred to SIC 24 # 1990 Export data not fully comparable with 1989 (see page 71)

R - 1989 Wood Pulp Exports revised by API

TABLE XIII

VALUE OF SHIPMENTS OF PRODUCT CLASSES

1982 - 1988

(Millions of Dollars)

1982 - 1986 SIC CODE		1987 SIC CODE	1982	1983	1984	1985	1986	1987	1988
	PAPER AND ALLIED PRODUCTS	26	$76,878.2	$81,575.8	$92,289.9	$90,540.5	$94,625.4	$105,398.7	$118,721.6
26	PAPER AND ALLIED PRODUCTS (1)		77,067.2	81,802.8	92,543.9	90,798.9	94,833.2	N.A.	N.A.
2611-	Pulp Mill Products	2611-	3,644.2	3,624.3	4,183.9	3,629.5	4,188.8	5,356.7	6,686.2
26111	Special Alpha and Dissolving Woodpulp	26111	593.8	589.9	617.6	561.6	587.6	686.9	856.4
26113	Sulfate Wood Pulp	26113	2,510.8	2,479.7	3,125.3	2,626.6	3,139.8	4,123.8	5,148.0
26114	Sulfite and Other Wood Pulp	26114	183.0	209.6	200.4	228.4	211.8	247.5	336.0
26115	Pulp, Other Than Wood, and Pulpmill Byproducts, n.e.c.	26115	353.0	336.0	236.8	208.3	249.3	297.9	344.1
26110	Pulp Mill Products, n.s.k.	26110	3.6	9.1	3.8	4.6	0.3	0.6	1.7
2621-	Papermill Products, except Building Paper		20,056.9	21,361.0	24,354.3	23,631.0	24,476.7	26,994.0	31,737.2
	Papermill Products	2621- (2)	20,222.2	21,549.9	24,528.9	23,789.9	24,614.0	27,121.6	31,870.0
26211	Newsprint	26211	2,161.6	2,220.1	2,369.8	2,385.4	2,409.5	2,765.7	3,168.1
26212	Uncoated Groundwood Papers	26212	841.5	888.6	1,043.8	996.4	942.3	934.4	1,130.7
26213	Clay Coated Printing and Converting Papers	26213	3,787.3	4,232.4	5,362.7	5,369.0	5,468.0	5,959.3	7,378.4
26214	Uncoated Free Sheet	26214	5,530.6	5,999.2	6,899.1	6,648.1	7,329.8	8,143.3	9,639.5
26215	Bleached Bristols, Excluding Cotton Fiber Index and Bogus	26215	605.2	667.6	708.7	673.9	697.4	778.4	922.6
26216	Cotton Fiber Papers and Thin Papers	26216	599.3	619.1	762.4	684.9	722.5	737.8	876.3
26217	Unbleached Kraft Packaging and Industrial Converting Papers	26217	1,199.8	1,219.0	1,349.1	1,101.7	1,125.9	1,314.3	1,480.4
26218	Pkg. and Ind. Conv. Papers, Exc. Unbl. Kraft	26218	666.7	738.3	858.7	879.9	869.6	952.7	1,120.2
26219	Special Industrial Papers	26219	942.8	960.0	1,058.2	1,007.3	997.0	1,058.8	1,175.5
2621A	Tissue Papers and Other Machine Creped Papers	2621A	3,685.4	3,782.2	3,882.3	3,843.3	3,884.3	4,257.2	4,729.5
26210	Paper Mill Products, n.s.k.	26210	36.7	34.2	59.4	41.3	30.4	92.0	115.9
26612	Construction Papers	2621B	165.3	189.2	174.7	158.7	137.3	127.6	132.8
2631-	Paperboard Mill Products	2631-	9,390.0	9,932.8	11,686.2	10,574.4	11,316.6	13,697.1	15,432.9
26311	Unbleached Kraft Pkg. and Ind. Conv. Paperboard	26311	4,076.1	4,101.0	5,218.1	4,655.3	5,110.6	6,415.5	7,215.6
26312	Bleached Packaging and Industrial Converting Paperboard	26312	2,146.0	2,215.3	2,366.6	2,077.1	2,285.9	2,558.8	2,957.3
26313	Semichemical Paperboard	26313	1,012.5	987.2	1,355.3	1,223.9	1,344.0	1,607.7	1,695.0
26314	Recycled Paperboard	26314	2,062.1	2,537.3	2,607.0	2,512.6	2,474.5	2,997.3	3,242.6
26318	Wet Machine Board	26318	62.8	64.8	81.6	78.3	66.5	64.0	59.7
26310	Paperboard Mill Products, n.s.k.	26310	30.4	27.4	57.6	27.1	35.2	53.9	62.7
265-	Paperboard Containers and Boxes	265-	18,578.1	19,906.5	21,966.9	22,179.6	22,506.1	25,095.4	27,404.7
26510	Bending Paperboard Packaging and Packaging Components		3,743.9	3,979.5	4,326.5	4,452.1	4,575.4	4,615.4	5,865.8
	Folding Paperboard Boxes	2657-	4,458.6					5,521.8	5,865.8
26520	Setup Paperboard Boxes	26520	485.1	552.3	492.6	480.8	522.4	517.9	520.2
26530	Corrugated and Solid Fiber Boxes, Including Pallets	26530	10,303.1	11,045.1	12,718.7	12,714.8	13,037.7	15,602.2	17,335.1
2654-	Sanitary Food Containers		2,555.8	2,666.4	2,749.7	2,853.2	2,806.3	2,866.0	2,097.2
	Sanitary Food Containers, Except Folding Boxes	2656-	1,841.0	1,914.6	2,019.5	2,113.8	2,072.3	1,959.8	2,097.2
26541	Milk and Milk-Type Paperboard Cartons	26561	550.5	535.2	577.5	590.1	569.2	558.7	578.2
26542	Cups and Liquid-Tight Paper and Paperboard Containers	26562	885.2	961.4	964.6	1,075.9	1,060.2	848.6	924.4
26544	Folding Sanitary Food Containers for Liquid, Etc.	(3)	714.7	771.8	730.3	739.3	734.0	906.4	N.A.
26545	Other San. Food Paper and Paperb'd F.C., Boards, and Trays	26563	362.2	375.6	406.8	398.8	395.8	475.9	528.9
26540	Sanitary Food Containers, Except Folding (Paperboard) n.s.k.	26560	43.1	42.4	70.6	49.1	47.1	76.5	65.7
2655-	Fiber Cans, Drums, and Similar Products	2655-	1,490.3	1,643.2	1,679.4	1,678.7	1,564.3	1,493.9	1,586.4
26551	Paperboard Fiber Drums	26551	289.8	317.2	312.7	333.1	314.8	311.5	339.7
26552	Fiber Cans, Tubes, and Similar Fiber Products	26552	1,152.3	1,283.5	1,286.0	1,265.7	1,176.3	1,069.9	1,144.7
26550	Fiber Cans, Drums and Similar Products, n.s.k.	26550	48.2	42.5	80.7	79.9	73.2	112.4	102.0
264-	Miscellaneous Converted Paper Products	267-	25,043.7	26,562.3	29,924.0	30,367.1	31,999.9	34,127.9	37,327.8
2641-	Coated and Glazed Paper		4,903.1	5,314.1	6,451.9	6,653.7	7,099.6	7,957.7	8,974.4
		2671-	1329.2	1356.3	1705.5	1827.3	2081.8	2460.1	2,773.2
26415	Single Web Paper, (Ctd Rolls & Shts., Incl. Waxed, for Pkg. Uses)	26711	433.9	446.6	517.1	549.8	607.4	474.4	610.3
26416	Single Web Film (Ctd. R&S, Incl. co-extruded, for Pkg. Uses)	26712	168.2	194.0	317.2	344.5	413.9	879.1	904.2
26419	Paper/Paper Multiweb Laminations for Packaging Uses	26713	182.3	155.0	187.4	181.2	197.0	249.1	292.8
2641A	Multiweb Laminated R&S, Exc. Paper/Paper & Foil, for Pkg. Uses	26714	544.8	562.7	683.8	751.8	863.5	857.6	965.9
		26710	—	—	—	—	—	—	3.6
	Paper Coating and Laminating, n.e.c.	2672-	3,574.0	3,956.0	4,746.4	4,826.6	5,017.7	5,497.7	6,201.1
26411	Printing Pap. Ctd. at Est. Other Than Where Paper Was Produced	26721	241.6	322.0	319.7	394.3	373.3	464.5	466.6
26413	Gummed Products	26722	211.9	228.9	290.1	203.1	191.9	218.4	230.6
26414	Pressure Sensitive Products	26723	1,867.6	2,110.6	2,616.3	2,660.8	2,728.4	3,100.0	3,642.9
2641B	Other Coated and Processed Paper, Except for Packaging	26724	900.3	1,023.3	1,135.7	1,214.5	1,348.4	1,200.0	1,300.9
	Paper Coating and Laminating, n.e.c., n.s.k. (4)	26720	N.A.	N.A.	N.A.	N.A.	N.A.	514.7	560.1
26410	Coated and Glazed Paper, n.s.k.		352.6	271.2	384.6	353.9	375.7	N.A.	N.A.
2643-	Bags, Except Textile Bags		4,772.8	5,081.3	5,387.6	5,541.9	5,839.2	6,297.1	7,131.7
	Bags: Plastics, Laminated, and Coated	2673-	2,762.6	3,021.2	3,241.0	3,572.5	3,943.3	3,936.5	4,557.5
26435	Specialty Bags and Liners, Single Web Paper, Coated	26731	205.5	279.8	255.3	264.7	235.0	262.4	271.5
26436	Speciality Bags and Liners, Single Web Film	26732	1,964.0	2,271.7	2,346.6	2,627.2	2,922.4	2,856.9	3,375.2
26437	Speciality Bags and Liners, Multiweb Lamination and Foil	26733	222.1	244.4	235.0	241.5	370.5	387.7	436.4
26430	Bags, Except Textile Bags, n.s.k.	26730	370.9	225.3	404.1	439.1	415.4	429.6	474.3
	Bags: Uncoated Paper and Multiwall	2674-	2010.3	2,060.0	2,146.5	1,969.4	1,895.8	2360.6	2,574.2
26434	Grocer's Bags and Sacks, Variety, Shopping, Uncoated	26741	1,163.8	1,181.9	1,183.4	1,084.7	1,006.5	1,141.8	1,167.2
26438	Shipping Sacks and Multiwall Bags, Except Textiles	26742	846.5	878.1	963.1	884.7	889.3	1,196.6	1,375.2
	Bags, Uncoated and Multiwall, n.s.k.	26740	N.A.	N.A.	N.A.	N.A.	N.A.	22.1	31.9
2645-	Die-Cut Paper and Board	2675-	1,605.1	1,797.6	1,880.0	1,651.0	1,690.0	1,701.1	1,866.2
26453	Die-Cut Paper and Board Office Supplies	26751	597.9	669.2	652.3	616.5	642.5	892.7	947.5
26454	Die-Cut Paper and Board Products (Other than Office)	26752	199.4	254.7	264.0	265.5	298.4	184.4	183.8
26455	Pasted, Lined, Laminated, or Surface-Coated Paperboard	26753	684.8	745.3	828.3	592.3	587.6	457.6	529.8
26450	Die-Cut Paper and Board Products, n.s.k.	26750	123.0	128.3	135.4	174.6	181.5	166.4	205.1
2647-	Sanitary Paper Products	2676-	8,373.5	8,615.8	9,771.5	10,193.7	10,732.0	11,171.7	11,853.4
26471	Sanitary Napkins and Tampons	26761	915.1	944.3	1,162.5	1,167.0	1,334.3	1,350.0	1,262.2
26473	Disposable Diapers	26763	2,156.5	2,175.0	2,593.9	2,606.9	2,922.9	3,202.9	3,223.8
26474	Sanitary Tissue Health Products	26764	5,259.8	5,457.4	5,920.7	6,338.2	6,377.6	6,503.2	7,249.9
26470	Sanitary Paper Products, N.S.K.	26760	40.1	39.1	94.4	79.6	97.1	115.6	117.5
26420	Envelopes (Excluding Stationery Evelopes)	2677-	1,751.6	1,874.9	2,107.6	2,086.1	2,229.7	2,499.5	2,650.2
2648-	Stationery Products	2678-	959.2	1,057.6	1,160.9	1,107.4	1,192.3	1,115.2	1,168.1
26481	Stationery	26781	261.8	309.5	304.9	314.7	342.2	283.2	304.2
26482	Tablets and Related Products	26782	603.1	653.9	736.0	686.9	760.1	706.9	736.7
26480	Stationery Products, n.s.k.	26780	94.4	94.3	120.0	105.8	90.1	125.1	126.2
2649-	Converted Paper Products n.e.c.	2679-	2,678.4	2,821.1	3,164.5	3,133.4	3,217.1	3,365.5	3,666.9
26493	Wallcoverings	26791	396.9	459.6	497.6	540.3	519.8	530.2	533.9
26494	Gift Wrap Paper	26792	389.6	401.0	491.9	512.6	565.4	591.7	671.1
26496	Paper Business Machine Supplies, Office Supplies, N.E.C.	26793	221.8	187.2	190.7	196.6	196.5	228.6	256.8
2646-	Pressed and Molded Pulp Goods	26794	242.3	217.4	236.3	260.3	269.7	272.9	288.4
26497	Other Converted Paper and Board Products	26795	1,062.6	1,210.2	1,261.7	1,211.8	1,250.5	1,227.7	1,475.8
26490	Converted Paper Products, n.e.c., n.s.k.	26790	345.2	345.7	486.3	412.9	413.2	534.4	561.0

SOURCE: Survey of Manufactures - Bureau of Census (1) 1982 - 1986 SIC Codes include fibreboard (2) 1987 code includes construction papers
(3) SIC Codes 26570, 86, 88, 94, 90, part of 2657; not included in 2656 (4) Incl. 27610 - Paper coating and laminating, n.s.k.
n.s.k. - Not specifically known n.e.c. - Not elsewhere classified N.A. - Not available

SECTION II

REGIONAL DATA

Table XIV (page 42) lists regional wood pulp, paper and paperboard production data for 1989, as published by the Department of Commerce. These data can be compared to the capacity data to determine regional operating rates. This table also includes information on pulpwood consumption. This is the last year that Commerce will report such data.

The Chart on page 43 pictures the distribution of wood pulp and of paper and paperboard capacity in the nine Census regions for the year 1989. The table below presents the data for 1989 and industry capacity expansion plans for 1993.

Southern mills continue to report a growing share of the nation's of the nation's paper, paperboard and wood pulp capacity. The most intense growth is in the East South Central States, with capacity growth out-pacing that of the nation as a whole in all four sectors of the industry: paper, paperboard, other paper and board and wood pulp.

The North Central mills are also gaining position, with above-average growth reported by the paperboard sector in the East North Central states and the paper mills in the West North Central States. The Mountain and Pacific States report gains at paper mills.

The major losses in position are occurring in the Northeast. In 1984, for example, mills in this region accounted for 15.8% of the total paper and paperboard capacity and 8.3 % of the wood pulp. By 1993, these ratios will be down to 13.4% and 7.9, respectively.

	TOTAL PAPER AND BOARD		TOTAL PAPER		TOTAL PAPERBOARD		TOTAL OTHER		TOTAL WOOD PULP	
	1989	1993	1989	1993	1989	1993	1989	1993	1989	1993
UNITED STATES	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
NORTHEAST	14.3	13.4	22.6	21.0	5.7	5.5	19.3	17.8	7.6	7.1
NEW ENGLAND	7.4	7.1	12.9	12.2	2.2	2.2	2.5	2.5	5.4	5.1
MIDDLE ATLANTIC	6.9	6.3	9.7	8.8	3.5	3.4	16.8	15.3	2.2	2.0
NORTH CENTRAL	18.0	18.5	22.7	23.7	13.2	13.2	19.3	20.3	7.6	7.4
EAST NORTH CENTRAL	15.6	15.7	19.5	19.4	11.9	12.1	11.3	11.4	6.3	5.9
WEST NORTH CENTRAL	2.4	2.8	3.2	4.2	1.3	1.2	8.0	8.9	1.3	1.5
SOUTH	53.4	53.8	41.1	41.3	65.5	66.2	57.1	57.6	68.2	69.6
SOUTH ATLANTIC	24.3	24.0	16.0	16.0	32.7	32.1	23.0	23.3	31.5	31.3
EAST SOUTH CENTRAL	13.5	14.1	11.2	11.6	15.6	16.4	18.8	18.9	18.4	20.2
WEST SOUTH CENTRAL	15.6	15.7	13.9	13.7	17.3	17.6	15.2	15.4	18.3	18.0
MOUNTAIN AND PACIFIC	14.4	14.3	13.7	14.0	15.6	15.1	4.3	4.3	16.6	15.9

TABLE XIV
STATE DATA – 1989
(SHORT TONS)

GEOGRAPHIC AREAS	Pulpwood Consumption (Cords)*	Wood Pulp Production	PAPER AND PAPERBOARD SHIPMENTS				
			Total All Grades 1/,2/	Paper	Paperboard	Wet Machine Board #	Construction Paper Plus Insulating Board
UNITED STATES, TOTAL	96,067,010	64,624,715	76,973,497	38,073,553	38,047,313	102,258	852,631
Northeast	7,706,390	5,022,120	10,451,988	8,355,330	2,096,658		
New England	N.A.	N.A.	5,271,701	4,457,418	814,283		
Maine	4,018,766	2,470,258	(D)	3,447,448	(D)		
New Hampshire	–	–	(D)	363,552	(D)		
Vermont	–	(D)	(D)	137,061	(D)		
Massachusetts	–	–	407,805	407,805	(D)		
Rhode Island	–	–	–	–	–		
Connecticut	–	–	(D)	(D)	(D)		
Middle Atlantic	N.A.	N.A.	5,180,287	3,897,912	1,282,375		
New York	855,972	555,783	1,919,140	1,614,807	304,333		
New Jersey	–	(D)	736,213	424,641	311,572		
Pensylvania	1,475,801 (H)	1,529,345	2,524,934	1,858,464	666,470		
North Central	7,075,461	5,129,347	13,447,427	8,544,595	4,902,832		
East North Central	N.A.	N.A.	N.A.	N.A.	N.A.		
Ohio	1,110,548 (H)	906,814	2,129,317	929,190	1,200,127		
Indiana	–	(D)	(D)	(D)	(D)		
Illinois	–	–	604,883	182,043	422,840		
Michigan	1,220,037 (H)	1,293,890	2,948,115	1,477,960	1,470,155		
Wisconsin	2,656,262	1,890,501	5,290,048	4,622,580	667,468		
West North Central	N.A.	N.A.	N.A.	N.A.	N.A.		
Minnesota	1,619,626	846,596	(D)	1,310,517	(D)		
Iowa	–	(D)	(D)	–	(D)		
Missouri	–	–	–	–	–		
Kansas	–	–	(D)	–	(D)		
South	63,415,661	44,131,369	41,052,982	15,849,310	25,203,672	(N.A.)	(N.A.)
South Atlantic	N.A.	N.A.	N.A.	N.A.	N.A.		
Delaware	–	–	(D)	(D)	–		
Maryland	–	–	(D)	–	(D)		
Virginia	3,991,268	2,920,057	3,233,672	1,058,901	2,174,771		
West Virginia	–	–	(D)	(D)	(D)		
North Carolina	4,227,283	3,188,774	2,221,084	1,027,751	1,193,333		
South Carolina	4,467,311	2,909,874	2,908,019	1,177,223	1,730,796		
Georgia	10,234,344	7,136,475	6,490,781	1,738,817	4,751,964		
Florida	6,333,602	4,003,741	3,057,662	842,592	2,215,070		
East South Central	N.A.	N.A.	N.A.	N.A.	N.A.		
Kentucky	–	–	(D)	(D)	(D)		
Tennessee	323,519 (H)	1,759,158	2,310,328	1,115,525 @	1,194,803		
Alabama	9,750,283	6,457,818	5,798,836	2,524,465	3,274,371		
Mississippi	2,502,526 (S)	2,799,802	(D)	401,782	(D)		
West South Central	N.A.	N.A.	N.A.	N.A.	N.A.		
Arkansas	3,833,759	2,466,809	2,568,009	1,380,526	1,187,483		
Louisiana	7,713,450	5,502,859	5,586,211	2,281,690	3,304,521		
Oklahoma	–	(D)	(D)	(D)	(D)		
Texas	4,156,027	3,211,578	2,628,166	1,304,418	1,323,750		
West	17,869,498	10,341,879	11,168,469	5,324,318	5,844,151		
Mountain	N.A.	1,754,063	1,523,168	405,782	1,117,386		
Montana	–	–	–	–	–		
Idaho	–	–	–	–	–		
Colorado	–	–	–	–	–		
New Mexico	–	–	–	–	–		
Arizona	–	–	–	–	–		
Utah	–	–	–	–	–		
Pacific	N.A.	8,587,816	9,645,301	4,918,536	4,726,765		
Washington	7,409,520 (S)	4,628,315	4,022,625	2,755,836	1,266,789		
Oregon	4,923,967	3,089,568	3,620,694	1,617,881	2,002,813		
California	–	869,933	2,001,982	544,819	1,457,163		
Alaska	(D)	(D)	–	–	–		

SOURCE: Bureau of the Census – Current Industrial Reports, Pulp, Paper and Board 1989, Series MA26A (89)–1 U.S. Department of Commerce, Washington DC

NOTE: THIS IS THE FINAL ISSUE OF THE CURRENT INDUSTRIAL REPORTS, PULP, PAPER AND PAPERBOARD
* – 128 Cu. Ft. roughwood basis # – Included in Paperboard totals @ – 1988 data
(S) – Softwood pulpwood only; hardwood pulpwood data withheld (H) – Hardwood pulpwood only; softwood pulpwood data withheld
(D) – Withheld by Commerce Department to avoid disclosure 1/ – Excludes 1,693,732 tons of hard pressed board not shown separately
(R) – Revised N.A. – Not Available 2/ – Includes construction paper and insulating board totals not included in regional totals

Chart 11

WOOD PULP REGIONAL CAPACITY – 1989

TOTAL=65, 026, 000 TONS

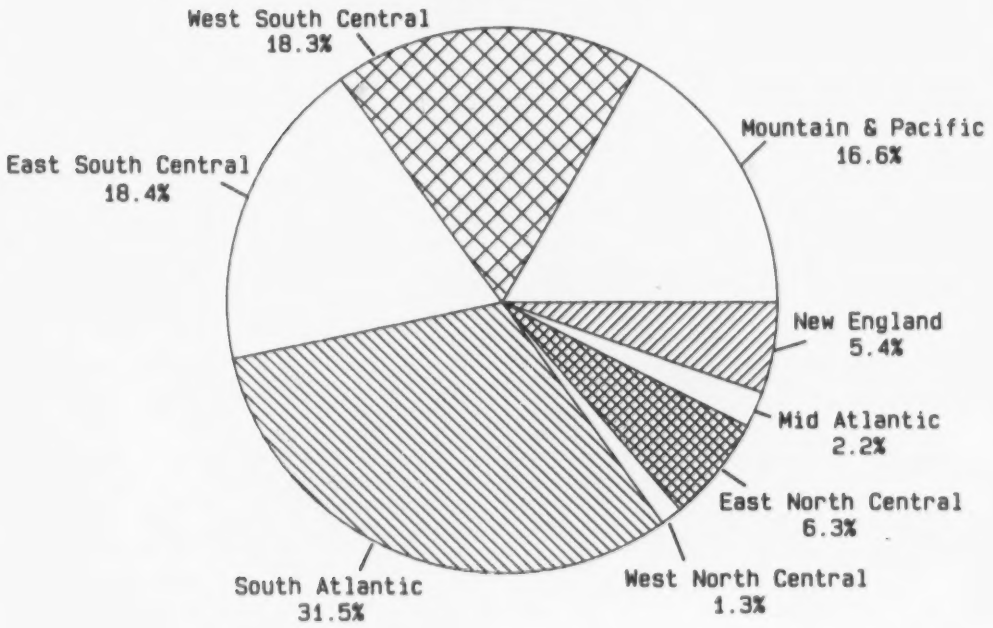


Chart 12

PAPER AND PAPERBOARD REGIONAL CAPACITY – 1989

TOTAL=84, 316, 000 TONS

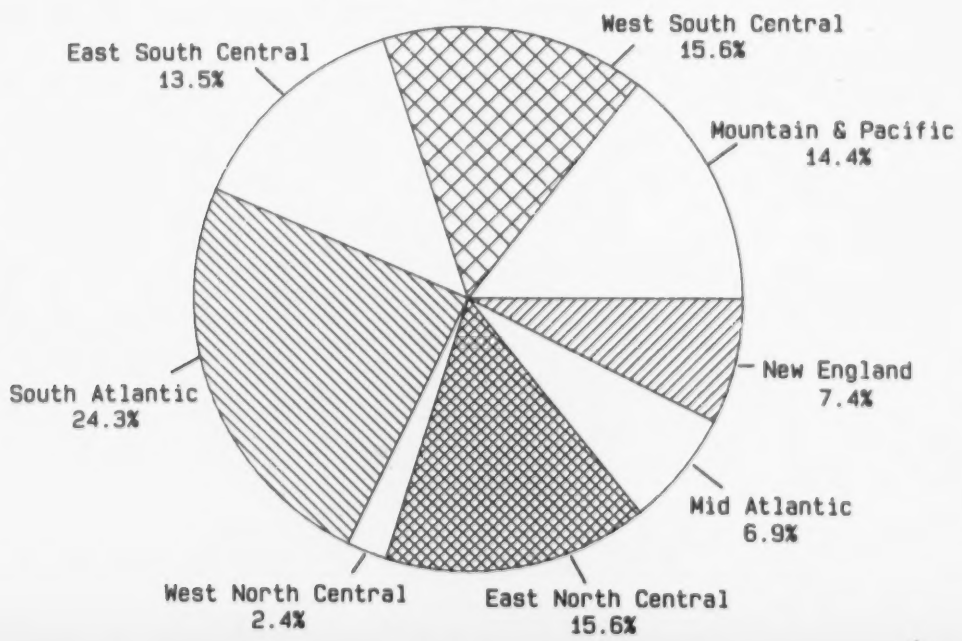


TABLE XV

PAPER, PAPERBOARD AND WOOD PULP CAPACITY BY CENSUS DIVISION

1970, 1980, 1988, 1989, 1993

ANNUAL CAPACITY – 000 SHORT TONS

	PAPER AND PAPERBOARD TOTAL	PAPER					PAPERBOARD			
		Total	Newsprint	Printing Writing & Related	Packaging & Industrial Converting	Tissue	Total	Unbleached Kraft Total	Unbleached Kraft Liner–Board	Solid Bleached
New England										
1970 *	4,748	3,660	417	2,419	367	457	895	–	–	34
1980	5,712	4,644	323	3,322	459	541	891	–	–	N.A.
1988	6,241	5,289	N.A.	3,911	477	530	896	–	–	–
1989	6,263	5,297	N.A.	3,912	465	529	911	–	–	–
1993	6,668	5,616	N.A.	4,242	470	537	889	–	–	–
Middle Atlantic										
1970 *	6,354	3,411	149	1,926	300	1,036	2,087	–	–	–
1980	6,452	3,890	N.A.	2,312	224	1,155	1,912	–	–	–
1988	5,852	4,052	N.A.	2,449	315	1,069	1,408	–	–	–
1989	5,803	4,002	N.A.	2,416	312	1,057	1,438	–	–	–
1993	5,882	4,021	N.A.	2,408	336	1,047	1,532	–	–	–
East North Central										
1970 *	10,057	5,070	113	3,197	628	1,132	4,021	–	–	–
1980	11,253	6,202	140	4,056	768	1,237	4,238	–	–	–
1988	12,889	7,803	N.A.	5,305	898	1,424	4,842	–	–	–
1989	13,137	8,013	N.A.	5,431	953	1,443	4,880	–	–	–
1993	14,684	8,931	N.A.	5,938	1,135	1,662	5,508	–	–	–
West North Central										
1970 *	1,587	594	–	571	23	–	438	–	–	–
1980	1,856	850	–	834	17	–	440	–	–	–
1988	1,934	1,251	–	1,225	N.A.	–	508	–	–	–
1989	2,007	1,322	–	1,294	N.A.	–	513	–	–	–
1993	2,648	1,931	–	1,902	N.A.	–	525	–	–	–
South Atlantic										
1970 *	13,623	3,520	339	1,275	1,723	182	9,514	6,194	5,770	1,382
1980	16,945	4,746	676	1,985	1,699	386	11,409	7,469	6,945	1,788
1988	20,195	6,490	1,069	3,311	1,481	629	13,227	8,718	8,190	1,916
1989	20,458	6,573	1,115	3,353	1,416	689	13,388	8,923	8,335	1,865
1993	22,495	7,361	1,324	4,010	1,207	820	14,630	9,365	8,777	2,148
East South Central										
1970 *	7,137	2,792	833	747	739	473	3,439	2,232	2,168	626
1980	8,515	3,408	1,061	1,335	506	505	4,744	3,008	2,679	717
1988	11,055	4,478	1,158	2,485	174	662	6,170	3,932	3,474	822
1989	11,398	4,617	1,207	2,526	207	676	6,375	4,155	3,691	836
1993	13,213	5,306	1,593	2,769	235	710	7,500	4,936	4,141	866
West South Central										
1970 *	7,106	3,188	721	1,130	1,247	88	3,172	1,704	1442	871
1980	10,267	4,437	1,159	1,504	1,445	329	5,194	2,964	2,484	1,197
1988	12,518	5,327	1,219	2,403	1,261	444	6,902	4,180	3,637	1,467
1989	13,143	5,713	1,264	2,748	1,268	432	7,102	4,358	3,753	1,473
1993	14,686	6,310	1,333	3,227	1,258	492	8,045	5,005	4,355	1,681
Mountain and Pacific										
1970 *	8,340	3,571	888	954	913	817	4,053	2,177	2,136	435
1980	9,716	4,483	1,279	1,451	953	800	4,881	2,526	2,479	441
1988	11,979	5,522	1,905	1,937	771	909	6,367	3,439	3,405	528
1989	12,105	5,628	1,915	1,956	785	971	6,385	3,442	3,414	541
1993	13,406	6,447	2,388	1,994	985	1,081	6,867	3,522	3,496	594

SOURCE: American Paper Institute, Paper, Paperboard and Wood Pulp Capacity Survey, various issues through December 1990.

* Total Capacity at end of year.

N.A. Not Available. – = Zero.

TABLE XV (Cont.)

PAPER, PAPERBOARD AND WOOD PULP CAPACITY BY CENSUS DIVISION

1970, 1980, 1988, 1989, 1993

ANNUAL CAPACITY – 000 SHORT TONS

	PAPERBOARD (Cont.)		CONSTRUCTION	WOOD PULP							
	Semi–Chemical	Recycled	Total Paper & Board	Total **	Dissolving	Sulphite	Semibl. Sulfate	Unbl. Sulfate (1)	Semi–chemical	Mechan–ical	For Const. Grades (2)
New England											
1970 *	179	882	192	2,797	–	484	1,081	53	140	953	105
1980	N.A.	663	176	3,253	–	N.A.	1,757	70	N.A.	908	130
1988	N.A.	787	56	3,489	–	N.A.	2,054	N.A.	N.A.	1,013	86
1989	N.A.	799	54	3,497	–	N.A.	2,061	N.A.	N.A.	1,013	86
1993	N.A.	889	54	3,542	–	N.A.	2,181	N.A.	N.A.	981	45
Middle Atlantic											
1970 *	–	2,087	856	1,357	–	143	312	88	325	247	244
1980	–	1,912	651	1,465	–	245	486	–	364	221	150
1988	–	1,408	392	1,438	–	N.A.	520	–	429	178	18
1989	–	1,438	363	1,438	–	N.A.	529	–	430	175	1
1993	–	1,532	329	1,413	–	N.A.	528	–	400	180	–
East North Central											
1970 *	1,128	2,769	966	3,209	–	567	601	165	987	482	427
1980	1,475	2,762	813	3,532	–	535	834	216	1,284	319	344
1988	1,852	2,990	244	4,010	–	351	1,430	N.A.	1,405	496	94
1989	1,889	2,990	244	4,122	–	359	1,535	N.A.	1,412	496	81
1993	1,866	3,639	246	4,116	–	339	1,547	N.A.	1,383	521	80
West North Central											
1970 *	176	262	555	959	–	44	206	24	265	266	153
1980	63	377	566	899	–	–	265	17	100	195	322
1988	N.A.	433	175	790	–	–	N.A.	N.A.	N.A.	358	51
1989	N.A.	438	173	841	–	–	N.A.	N.A.	N.A.	415	48
1993	N.A.	449	192	1,045	–	–	N.A.	N.A.	N.A.	490	48
South Atlantic											
1970 *	1,103	834	589	14,598	600	2	4,222	8,140	913	385	336
1980	1,116	1,037	790	17,364	658	–	5,842	9,014	879	509	462
1988	1,209	1,384	478	20,048	524	–	8,448	8,996	891	986	203
1989	1,225	1,376	497	20,501	540	–	8,609	9,215	916	1,017	204
1993	1,328	1,790	503	21,875	553	–	10,024	9,332	924	837	204
East South Central											
1970 *	333	248	906	7,586	285	–	2,481	2,871	429	844	676
1980	672	347	363	9,251	N.A.	–	3,956	3,435	590	852	189
1988	988	428	406	11,825	N.A.	–	5,840	3,891	733	983	148
1989	943	441	406	11,977	N.A.	–	5,912	3,938	679	1,052	146
1993	1,063	635	407	14,142	N.A.	–	7,334	4,398	662	1,307	146
West South Central											
1970 *	352	245	747	7,069	–	–	2,969	2,765	259	694	383
1980	708	326	635	10,059	–	–	3,896	4,326	620	979	238
1988	840	416	289	11,424	–	–	4,630	4,941	656	1,055	142
1989	846	425	328	11,871	–	–	4,995	5,051	657	1,062	106
1993	880	478	332	12,606	–	–	5,450	5,304	664	1,082	106
Mountain and Pacific											
1970 *	485	957	716	8,896	883	1,163	2,147	2,932	366	787	619
1980	720	1,193	352	9,391	703	885	2,658	3,273	620	1,086	163
1988	715	1,686	90	10,730	693	798	3,266	4,013	535	1,361	64
1989	691	1,710	92	10,779	676	799	3,362	3,954	518	1,406	64
1993	750	2,001	92	11,145	678	813	3,506	4,020	532	1,532	64

(1) Includes screenings. (2) Excludes defibrated/exploded pulp capacity of mills that produce hard pressed board, 1988 – 1993.

* Total capacity at end of year. N.A. – Not Available. – = Zero.

** Includes soda pulp for 1970 as follows (000 tons): New England – 10, Middle Atlantic – 86, East South Central – 93, Mountain and Pacific – 4. Other years, soda pulp is included in sulfate pulp.

TABLE XVI

PAPER AND ALLIED PRODUCTS – 1987 DATA

	Number of Establishments	Number of All Employees (000)	Total Payroll $ Million	Number of Production Workers (000)	Wages of Production Workers	Value Added by Manufacture	Value of Shipments	Capital Expenditures
					Million Dollars			
Northeast #	1,813	159	4,156	118.9	2,766.4	10,602.7	23,131.9	1,083.0
New England #	513	56	1,545	42.3	1,055.2	3,948.6	8,322.8	486.0
Maine	37	16.2	551.0	12.7	411.3	1,474.6	3,293.6	301.3
New Hampshire	41	5.6	153.7	4.1	94.3	408.0	909.4	35.6
Vermont	19	2.2	49.6	1.8	37.1	169.4	352.3	(D)
Massachusetts	271	23.0	559.5	16.6	353.5	1,162.9	2,376.6	85.1
Rhode Island	48	2.0	38.6	1.6	26.7	80.1	167.4	4.3
Connecticut	97	7.3	192.9	5.5	132.3	653.6	1,223.5	59.7
Middle Atlantic	1,300	102.6	2,610	76.6	1,711.2	6,654.1	14,809.1	597.0
New York	596	40.0	952.9	30.6	629.6	2,156.4	4,793.2	218.5
New Jersey	337	24.8	638.9	17.8	384.0	1,517.2	3,207.9	102.9
Pennsylvania	367	37.8	1,018.5	28.2	697.6	2,980.5	6,808.0	275.6
North Central #	1,796	163.0	4,478.5	123.3	3,102.1	12,476.7	27,689.0	1,096.3
East North Central	1,426	126.2	3,535.7	94.7	2,435.9	9,398.7	21,270.9	561.5
Ohio	382	30.0	811.2	22.5	557.8	1,852.7	4,383.9	173.1
Indiana	172	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Illinois	401	32.3	787.5	24.4	513.4	1,978.9	4,419.9	(D)
Michigan	232	20.6	602.7	15.2	417.4	1,684.5	3,646.8	(D)
Wisconsin	239	43.3	1,334.3	32.6	947.3	3,882.6	8,820.3	388.4
West North Central #	370	36.8	942.8	28.6	666.2	3,078.0	6,418.1	534.8
Minnesota	107	14.0	406.7	11.1	295.7	1,351.3	2,610.1	394.8
Iowa	50	5.2	126.4	4.0	87.4	397.8	896.8	22.1
Missouri	134	12.6	298.6	9.9	212.3	910.5	2,033.6	117.9
North Dakota	–	–	–	–	–	–	–	–
South Dakota	8	0.5	9.0	0.4	6.1	29.8	62.2	(D)
Nebraska	17	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Kansas	54	4.5	102.1	3.2	64.7	388.6	815.4	(D)
South #	1,717	204.7	5,794.6	158.4	4,161.6	19,996.9	41,247.4	2,366.8
South Atlantic	874	103.3	2,926.8	79.2	2,066.7	9,491.3	20,027.4	1,338.1
Delaware	15	1.7	42.8	1.3	29.9	205.6	327.4	(D)
Maryland	82	9.3	227.1	7.0	153.3	555.1	1,087.2	100.4
Virginia	104	14.5	419.9	10.9	290.3	1,271.9	2,623.2	114.5
West Virginia	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)
North Carolina	201	21.8	608.8	17.0	438.9	1,780.6	3,710.9	164.9
South Carolina	82	13.1	386.4	10.4	284.4	1,665.6	3,150.9	139.1
Georgia	207	28.8	846.1	21.5	577.7	2,872.4	6,336.0	445.0
Florida	181	14.1	395.7	11.1	292.2	1,140.1	2,791.8	374.2
East South Central	378	51.4	1,479.2	40.1	1,083.5	5,654.6	11,051.1	432.3
Kentucky	65	6.9	175.0	5.4	123.9	653.5	1,421.1	(D)
Tennessee	160	18.2	458.1	14.2	327.4	1,585.8	3,249.6	116.1
Alabama	94	18.4	617.6	14.3	463.9	2,610.2	4,662.6	209.5
Mississippi	59	7.9	228.5	6.2	168.3	805.1	1,717.8	106.7
West South Central	465	50.0	1,388.6	39.1	1,011.4	4,851.0	10,168.9	596.4
Arkansas	77	12.6	371.7	10.2	289.4	1,144.4	2,461.9	185.6
Louisiana	50	10.3	342.4	8.0	252.6	1,513.3	2,938.1	207.2
Oklahoma	42	3.6	95.7	2.9	74.1	431.7	909.8	21.2
Texas	296	23.5	578.8	18.0	395.3	1,761.6	3,859.1	182.4
West #	930	65.2	1,941.0	50.3	1,409.0	6,081.1	13,811.0	629.7
Mountain #	120	5.3	122.4	4.1	83.2	345.8	819.2	34.1
Montana	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Idaho	9	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Wyoming	–	–	–	–	–	–	–	–
Colorado	53	2.5	56.9	1.8	36.2	138.2	333.7	16.6
New Mexico	–	–	–	–	–	–	–	–
Arizona	33.0	1.7	42.4	1.3	29.5	144.3	320.3	14.2
Utah	21	1.1	23.1	1.0	17.5	63.3	165.2	3.3
Nevada	–	–	–	–	–	–	–	–
Pacific #	810	59.9	1,818.6	46.2	1,325.8	5,735.3	12,991.8	595.6
Washington	109	16.0	552.3	12.5	420.4	1,778.7	3,980.8	217.0
Oregon	65	7.4	266.6	5.8	202.2	1,156.6	2,267.4	124.2
California	624	36.5	999.7	27.9	703.2	2,800.0	6,743.6	254.4
Hawaii	9	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Alaska	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)
TOTAL REPORTED	6,256	591.8	16,369.7	450.9	11,439.1	49,157.4	105,879.3	5,175.8
TOTAL U.S.A.		611.3	16,859.8	465.7	11,776.2	50,488.8	108,988.7	5,752.5

Source: Department of Commerce, Bureau of the Census: 1987 Census of Manufactures, Geographic Area Series.
(D) – Data withheld to avoid disclosure. # – Total reported. – = No data reported.

SECTION III

INPUTS AND RELATED DATA

During the past five years or so, paper and pulp producers have shown major changes in their raw materials:

- The Recyclable Paper Utilization Rate (the ratio of recyclable paper consumption to paper and board production) rose from 23.8% in 1985 to 27.1% in 1990 (Table XIX).

- Consumption of Thermomechanical (TMP) wood pulp increased from 4.2% of total wood pulp consumption at paper and board mills in 1985 to 5.3% in 1990, an increase of one million tons (Table XXII).

Wood pulp producers are presently decreasing their use of chlorine and increasing their use of sodium chlorate, hydrogen peroxide and oxygen. The data available come from the 1987 Census of Manufactures, which shows chlorine consumption constant relative to wood pulp production from 1982 to 1987, with sodium chlorate increasing. Table XVII presents the data on inputs of raw materials, energy and labor in 1987, as published in the 1987 Census and the 1988 Survey of Manufactures.

The industry's fuel and energy use patterns have been relatively stable during the past few years (Table XVIII and Chart 13). Self-generated fuels contributed 56.0% of total energy, compared to 56.2% in 1989 and 40.3% in 1972. Declines in hogged fuel and bark offset the gain in spent liquors. Consumption of residual fuel oil fell to a low of 6.1% of the energy total; in 1972 it accounted for 21%. Use of natural gas, however, rose 11.8% from 1989 to 1990 to account for 16.3% of the industry's energy, up from 14.9% in 1989 but still well below 1972's 21.1%.

Productivity at pulp, paper and paperboard mills continues to improve. Output per man-hour moved to new highs in 1990, posting a 29% gain over its 1982 level (Table XXIV). The impact of this trend is evident in the employment data (Table XXIII). Employment at pulp, paper and board mills declined from 1982 to 1990 while production (Section I, Table IA) moved sharply upward.

The increases in productivity can be traced directly to the high level of expenditures on new plant and equipment by paper and allied products companies (Table XXVI). These companies reported expenditures of $16.53 billion in 1990, equivalent to 14.3% of sales (Table XXIX) -- a ratio was well above that of any other manufacturing industry.

Expenditures on new plant and equipment for pollution abatement have moved up sharply during the past two years as the industry coped with new challenges in this area (Table XXVIIA). These expenditures rose above one billion dollars in 1989, equivalent to 11% of total capital expenditures, and increased again in 1990.

TABLE XVII

MATERIALS CONSUMED BY KIND AT
PAPER, PAPERBOARD AND WOOD PULP MILLS
1987

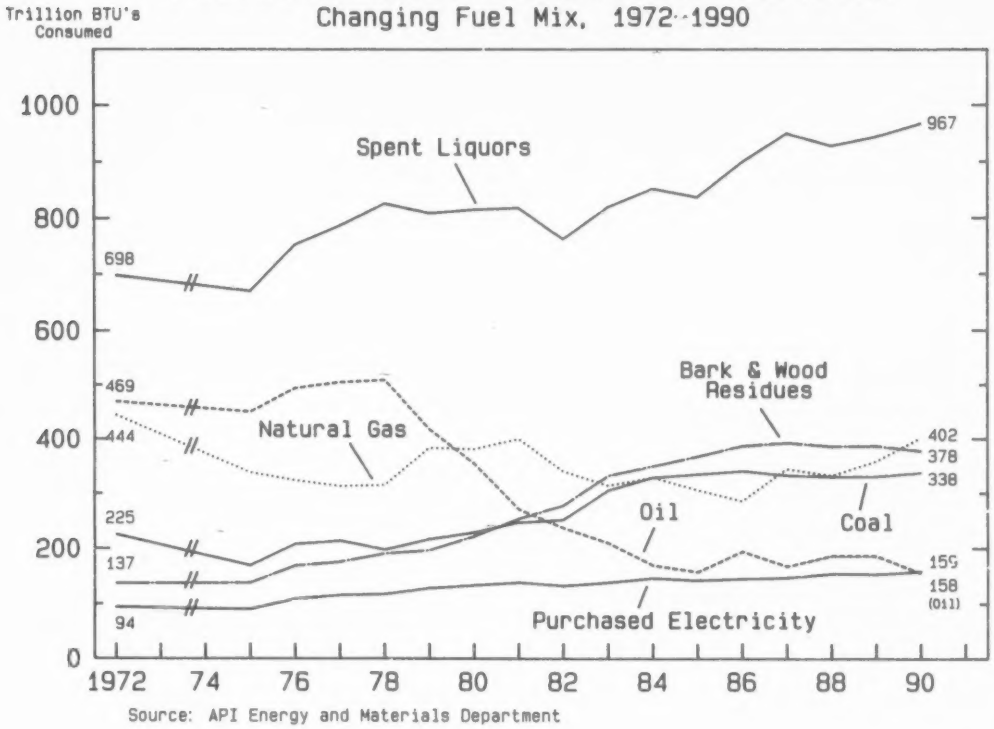
	Industry 2611 Pulp Mills		Industry 2621 Paper Mills		Industry 2631 Paperboard Mills		All Primary Mills	
	000 Tons	$ Mil	000 Tons	$ Mil	000 Tons	$ Mil	000 Tons	$ Mil
MATERIALS, PARTS, CONTAINERS AND SUPPLIES								
Pulpwood (Units: 1,000 cords)								
Softwoods								
Bolts and Logs								
Spruce	179.3	10.4	1,620.3	124.2	(D)	(D)	1,799.6	134.6
Hemlock	769.3	43.8	887.9	58.7	(D)	(D)	1,657.2	102.5
Jack Pine	–	–	896.8	49.7	(D)	(D)	896.8	49.7
Southern Pine	3,902.2	247.6	9,601.7	599.6	13,302.8	826.4	26,806.7	1,673.6
Other Softwoods	(D)	(D)	1,084.9	66.2	(D)	(D)	1,084.9	66.2
Chips	4,242.8	243.5	9,934.4	608.1	13,110.3	745.2	27,287.5	1,596.8
Slabs, cores and other mill residues	(D)	(D)	382.0	11.8	254.3	8.0	636.3	19.8
Sum of reported softwoods	9,093.6	545.3	24,408.0	1,518.3	26,667.4	1,579.6	60,169.0	3,643.2
Hardwoods								
Bolts and Logs								
Northern mixed hardwoods	(D)	(D)	1,653.1	85.1	605.2	29.6	2,258.3	114.7
Poplar (aspen and popple)	(D)	(D)	1,469.7	76.4	(D)	(D)	1,469.7	76.4
Southern mixed hardwoods	2,245.5	114.0	4,949.3	266.2	3,283.9	164.0	10,478.7	544.2
Other hardwoods	418.5	25.8	1,003.8	54.2	585.6	26.6	2,007.9	106.6
Slabs and other mill residues	1,183.9	66.7	3,670.1	200.7	3,978.8	216.1	8,832.8	483.5
Stumpage costs	(X)	–	(X)	11.0	(X)	(D)	(X)	11.0
Sum of reported hardwoods	3,847.9	206.5	12,746.0	693.6	8,453.5	436.3	25,047.4	1,336.4
Sum of reported pulpwood	12,941.5	751.8	37,154.0	2,211.9	35,120.9	2,015.9	85,216.4	4,979.6
Chemicals (Units: 1,000 Tons)								
Sulfur	101.6	11.1	86.4	11.4	91.7	11.6	279.7	34.1
Chlorine	396.6	60.8	864.2	128.8	336.5	49.9	1,597.3	239.5
Sodium Hydroxide (caustic soda NaOH)	626.7	80.1	1,210.9	160.2	913.4	106.3	2,751.0	346.6
Sodium carbonate (Na2CO3)	(D)	(D)	20.6	4.0	57.6	8.2	78.2	12.2
Sodium Sulfate (Na2SO4)	(D)	(D)	153.9	13.5	319.0	28.9	472.9	42.4
Sodium Chlorate (NaClO3)	136.7	42.4	216.9	67.2	81.9	26.4	435.5	136.0
Titanium Dioxide (TiO2)	3.3	4.8	181.8	279.8	28.2	41.1	213.3	325.7
Aluminum sulfate (17% Al2O3)	13.7	1.8	289.9	39.3	214.7	24.0	518.3	65.1
Rosin sizing	2.6	1.5	78.8	49.9	53.9	33.9	135.3	85.3
Lime	350.2	18.6	760.3	48.2	380.4	22.0	1,490.9	88.8
Sum of reported chemicals	1,631.4	221.1	3,863.7	802.3	2,477.3	352.3	7,972.4	1,375.7
Wood Pulp								
Produced at affiliated mills	(D)	(D)	2,355.2	969.6	(D)	(D)	2,355.2	969.6
Produced and consumed at same location	849.6	(X)	23,353.9	(X)	25,051.8	(X)	49,255.3	(X)
Purchased market wood pulp	(D)	(D)	5,191.8	2,568.5	118.4	50.9	5,310.2	2,619.4
Sum of reported wood pulp	849.6	(X)	30,900.9	3,538.1	25,170.2	50.9	56,920.7	3,589.0
Waste Paper								
Mixed	(D)	(D)	388.8	66.2	1,594.8	128.0	1,983.6	194.2
News	–	–	1,614.2	122.3	1,098.0	67.0	2,712.2	189.3
Corrugated	–	–	453.2	51.9	6,899.1	637.3	7,352.3	689.2
High grade pulp substitutes	–	–	599.5	165.2	709.6	112.1	1,309.1	277.3
High grade deinking	(D)	(D)	1,171.4	135.6	152.0	25.1	1,323.4	160.7
Sum of reported waste paper	(D)	(D)	4,227.1	541.2	10,453.5	969.5	14,680.6	1,510.7
Other Materials								
Linter pulp	–	–	23.5	20.4	–	–	23.5	20.4
Cotton linters (reported in lbs., adjusted to short tons)	183.1	38.6	20.8	20.4	–	–	203.8	59.0
Other fibrous materials	(D)	(D)	142.3	59.8	(S)	0.9	142.3	60.7
Kaolin and ball clay	(D)	(D)	2,380.5	326.1	268.6	33.7	2,649.1	359.8
Starch (reported in lbs., adjusted to short tons)	(D)	(D)	850.3	214.2	212.9	57.6	1,063.2	271.8
Synthetic resins – styrene butadiene (adj.)	–	–	123.9	126.5	15.5	19.4	139.4	145.9
Synthetic resins – polyvinyl acetate (adj.)	–	–	23.6	18.7	19.6	14.7	43.2	33.4
Sum of reported other materials	183.1	38.6	3,541.3	785.7	516.6	126.3	4,240.9	930.6
Paperboard boxes, etc.	(X)	(D)	(X)	157.8	(X)	(D)	(X)	157.8
All other	(X)	413.1	(X)	3,293.0	(X)	1,493.3	(X)	5,199.4
Materials n.s.k.	(X)	119.7	(X)	776.9	(X)	179.1	(X)	1,075.7
Sum of reported miscellaneous materials	(X)	532.8	(X)	4,227.7	(X)	1,672.4	(X)	6,432.9
Sum of individual reported materials	(X)	1,544.3	(X)	12,066.9	(X)	5,167.3	(X)	18,818.5
Materials not reported separately	(X)	122.6	(X)	17.6	(X)	143.4	(X)	283.6
Total materials reported	(X)	1,666.9	(X)	12,104.5	(X)	5,330.7	(X)	19,102.1
ENERGY	(X)	264.0	(X)	2,430.7	(X)	1,341.6	(X)	4,037.1
Reported materials and energy	(X)	1,930.7	(X)	14,535.2	(X)	6,672.3	(X)	23,139.2
Other materials	(X)	87.7	(X)	320.8	(X)	167.4	(X)	575.9
REPORTED COST OF MATERIALS	(X)	2,018.4	(X)	14,856.0	(X)	6,839.7	(X)	23,715.1
EMPLOYEE COSTS								
Payroll	(X)	535.1	(X)	4,567.0	(X)	1,888.8	(X)	6,990.9
Other compensation	(X)	124.6	(X)	1,043.6	(X)	371.5	(X)	1,539.7
Total compensation	(X)	659.7	(X)	5,640.6	(X)	2,280.3	(X)	8,530.6
TOTAL DIRECT COSTS (INCLUDING SALARIES)	(X)	2,678.1	(X)	20,496.6	(X)	9,070.0	(X)	32,245.7
CONTRIBUTION TO OVERHEAD	(X)	1,621.7	(X)	8,383.7	(X)	4,984.0	(X)	14,889.4
VALUE ADDED	(X)	2,281.4	(X)	14,024.3	(X)	6,914.3	(X)	23,220.0
Sum of value added & cost of raw materials	(X)	4,300.9	(X)	28,880.3	(X)	13,754.0	(X)	46,935.1
Imputed inventory change	(X)	(12.9)	(X)	(37.7)	(X)	24.3	(X)	(26.3)
VALUE OF SHIPMENTS	(X)	4,313.7	(X)	28,918.0	(X)	13,729.7	(X)	46,961.4

Source: 1987 Census of Manufactures, Pulp, Paper and Board Mills MC87–I–26A. 1986 Survey of Manufactures – Bureau of Census.
(D) Data withheld by Census to avoid disclosing data for individual companies; data are included in higher level totals. (X) Not applicable.
(S) Withheld by Census because estimate did not meet publication standards. – : Zero.

Chart 13

PULP, PAPER AND PAPERBOARD INDUSTRY

Changing Fuel Mix, 1972-1990



Source: API Energy and Materials Department

Chart 14

PULP, PAPER AND PAPERBOARD INDUSTRY

ALL EMPLOYEES-OUTPUT PER MANHOUR

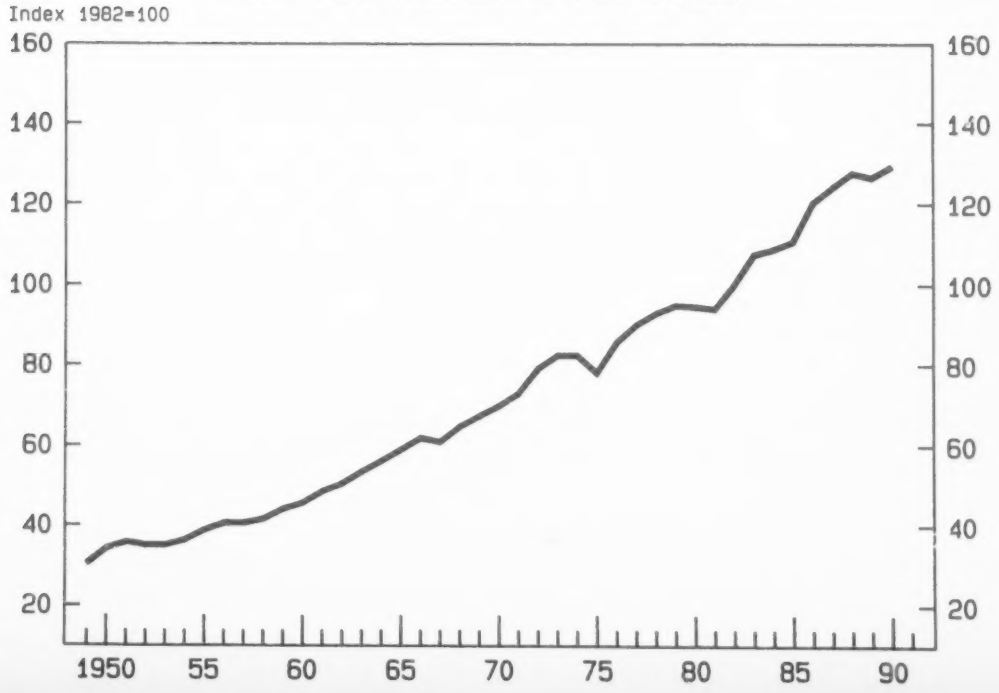


TABLE XVIII

UNITED STATES

PULP, PAPER AND PAPERBOARD INDUSTRY

ESTIMATED FUEL AND ENERGY USE

1972, 1986 - 1990

		1972 *			1986			1987 *		
Source	Units	Estimated Use	Billion BTU's	% of Total+	Estimated Use	Billion BTU's	% of Total+	Estimated Use	Billion BTU's	% of Total+
Purch. Electricity	MM KWH	27,559.5	93,698.4	4.4	43,025.6	146,392.0	6.4	43,468.5	147,838.8	6.1
Purchased Steam	MM lbs.	19,548.3	22,613.0	1.1	17,008.4	18,692.2	0.8	14,071.1	17,364.0	0.7
Coal	M Tons	9,033.6	224,737.1	10.7	13,791.1	340,969.1	14.9	13,432.0	335,087.0	13.9
Residual Fuel Oil	M 42 gal BBLs	71,121.2	447,381.5	21.2	31,142.2	187,078.4	8.2	25,393.4	159,818.4	6.6
Distilate Fuel Oil	M 42 gal BBLs	3,698.9	22,020.9	1.0	1,331.0	7,929.3	0.3	1,423.6	8,499.8	0.4
Liquid Propane Gas	M gal	28,566.8	2,628.9	0.1	31,197.8	2,910.3	0.1	29,806.6	2,737.3	0.1
Natural Gas	MMCF	435,459.9	443,916.3	21.1	280,538.7	285,619.4	12.5	338,602.4	345,437.7	14.4
Other Purch. Energy			1,634.0	0.1		3,203.3	0.1		24,823.7	1.0
Energy Sold			(13,125.0)			(29,483.7)			(35,386.5)	
Total Purch. Fossil Fuel and Energy			1,245,505.1	59.7		963,310.3	43.3		1,006,220.2	43.2
Hogged Fuel (50% Moist. Content)	M Tons	5,191.2	42,103.2	2.0	30,395.2	254,846.1	11.1	30,961.7	258,089.4	10.7
Bark (50% Moisture Content)	M Tons	10,348.2	94,428.9	4.5	15,375.9	132,441.7	5.8	16,779.3	134,869.3	5.6
Spent Liquor (Solids)	M Tons	55,175.5	698,393.4	33.3	74,528.1	897,406.4	39.1	76,918.4	949,556.5	39.6
Self-Generated Hydroelec. Power	MM KWH	2,696.4	9,171.3	0.4	2,664.3	9,064.1	0.4	3,448.0	11,662.2	0.5
Other Self-Generated Energy			2,977.4	0.1		7,322.7	0.3		10,177.4	0.4
Total Self-Generated & Residue Fuels			847,074.2	40.3		1,301,081.0	56.7		1,364,354.8	56.8
Total Energy			2,092,579.3	100.0		2,264,391.3	100.0		2,370,575.0	100.0
Total Production	M Tons		61,487.5			87,598.5			86,489.3	

SOURCE: Energy and Materials Department; Pulp, Materials and Tehnology Group; American Paper Institute.

* Based on a sample of 91.4% total dried pulp, paper and paperboard production for 1990, 93.0% for 1989, and 90.1% for 1987.

+ Determined by using "Total Energy" + "Energy Sold" as a denominator.

TABLE XVIII (Cont.)

UNITED STATES

PULP, PAPER AND PAPERBOARD INDUSTRY

ESTIMATED FUEL AND ENERGY USE

1972, 1986 - 1990

		1988 *			1989 *			1990 *		
Source	Units	Estimated Use	Billion BTU's	% of Total+	Estimated Use	Billion BTU's	% of Total+	Estimated Use	Billion BTU's	% of Total+
Purch. Electricity	MM KWH	45,430.7	154,523.2	6.5	45,272.6	153,997.9	6.4	46,673.0	158,772.5	6.5
Purchased Steam	MM lbs.	18,874.6	20,822.2	0.9	16,953.3	18,431.9	0.8	17,490.1	19,085.4	0.8
Coal	M Tons	13,185.1	329,833.0	13.9	13,173.8	331,102.5	13.7	13,969.4	338,051.6	13.7
Residual Fuel Oil	M 42 gal BBLs	28,367.3	178,494.7	7.5	28,448.3	178,699.3	7.4	23,963.8	150,854.7	6.1
Distilate Fuel Oil	M 42 gal BBLs	1,499.2	8,953.2	0.4	1,434.9	8,568.7	0.4	1,427.1	6,898.2	0.3
Liquid Propane Gas	M gal	28,514.3	2,618.9	0.1	29,280.9	2,689.3	0.1	34,575.9	3,350.1	0.1
Natural Gas	MMCF	326,328.3	332,356.1	14.0	325,905.6	359,414.7	14.9	393,419.6	401,682.9	16.3
Other Purch. Energy			2,219.9	0.1		3,222.7	0.1		5,413.9	0.2
Energy Sold			(-39,356.5)			(32,695.0)			(33,581.1)	
Total Purch. Fossil Fuel and Energy			990,464.7	43.4		1,023,432.0	43.8		1,050,528.2	44.0
Hogged Fuel (50% Moist. Content)	M Tons	31,367.9	262,541.1	11.1	30,069.6	250,175.9	10.4	29,702.1	247,578.3	10.1
Bark (50% Moisture Content)	M Tons	14,345.2	123,693.4	5.2	16,102.9	136,385.3	5.7	15,065.7	130,694.4	5.3
Spent Liquor (Solids)	M Tons	75,361.8	928,310.1	39.3	76,709.6	944,629.3	39.2	77,977.3	967,036.5	39.3
Self-Generated Hydroelec. Power	MM KWH	3,309.8	11,258.5	0.5	3,772.9	12,833.5	0.5	3,938.3	17,240.0	0.7
Other Self-Generated Energy			11,451.5	0.5		11,308.4	0.5		12,984.0	0.5
Total Self-Generated & Residue Fuels			1,337,254.6	56.6		1,355,332.4	56.2		1,375,533.2	56.0
Total Energy			2,327,719.3	100.0		2,378,764.4	100.0		2,426,061.4	100.0
Total Production	M Tons		87,312.3			87,598.5			N.A.	

SOURCE: Energy and Materials Department; Pulp, Materials and Tehnology Group; American Paper Institute.

* Based on a sample of 91.4% total dried pulp, paper and paperboard production for 1990, 93.0% for 1989, and 90.1% for 1987.

+ Determined by using "Total Energy" ÷ "Energy Sold" as a denominator.

N.A. - Not available.

TABLE XIX

UNITED STATES

RECYCLABLE PAPER UTILIZATION AND RECOVERY

1970 - 1990

(Thousands of Tons)

YEAR	Paper and Board Production	New Supply Paper and Board	Recyclable Paper Consumption at Paper & Board Mills	Recyclable Paper Utilization Rate	Recyclable Paper for Molded Pulp, Insulation and other Uses	Exports	Imports	Total Recyclable Paper Recovered	Recyclable Paper Recovery Rate
1970	51,670	55,968	11,803	22.8%	418	408	(67)	12,562	22.4%
1971	53,162	57,450	12,106	22.8%	442	419	(68)	12,899	22.5%
1972	57,434	62,041	12,925	22.5%	447	415	(88)	13,699	22.1%
1973	59,900	65,004	14,094	23.5%	499	683	(87)	15,189	23.4%
1974	59,040	63,308	13,982	23.7%	489	1,307	(89)	15,689	24.8%
1975	50,976	54,113	11,748	23.0%	535	861	(72)	13,072	24.2%
1976	58,329	62,014	13,622	23.4%	630	1,273	(106)	15,419	24.9%
1977	60,040	64,243	14,058	23.4%	870	1,512	(92)	16,348	25.4%
1978	62,047	67,787	14,760	23.8%	502	1,613 RS1	(70)	16,805	24.8%
1979	64,345	69,796	15,361	23.9%	509	2,127	(78)	17,919	25.7%
1980	63,600	67,166	14,922	23.5%	473	2,637	(87)	17,945	26.7%
1981	64,259	67,957	15,037	23.4%	480	2,282	(79)	17,720	26.1%
1982	60,952	64,730	14,433	23.7%	487	2,232	(74)	17,078	26.4%
1983	66,749	71,166	15,638	23.4%	475	2,705	(100)	18,718	26.3%
1984	70,248	76,936	16,724	23.8%	460	3,456	(110)	20,530	26.7%
1985	68,683	76,133	16,371	23.8%	529 RS2	3,556	(87)	20,369	26.8%
1986	72,505	79,755	17,935	24.7%	593	4,093	(99)	22,522	28.2%
1987 R	75,949	83,482	18,694	24.6%	657	4,809	(128)	24,033	28.8%
1988 R	78,085	85,504	19,684	25.2%	703	5,953	(160)	26,179	30.6%
1989 R	78,356	85,156	20,219	25.8%	722	6,307	(173)	27,075	31.8%
1990 P	80,352	86,703	21,791	27.1%	994 RS4	6,505 RS3	(123)	29,167	33.6%

Paper and Board Production includes all grades of paper, paperboard, wet machine board, construction paper and board, excluding hard pressed board.

New Supply equals production plus imports less exports, excluding hard pressed board.

Imports and exports include paper and paperboard converted products.

Utilization Rate is the ratio of recyclable paper consumption to total production of paper and board.

Recovery Rate is the ratio of recyclable paper collected to new supply of paper and paperboard.

Total Recyclable Paper Recovered is the sum of Recyclable Paper Consumption at Paper and Board Mills, other uses and exports less imports.

RS1 - Recovered paper exports, 1978 - 1989, adjusted by data from Canadian Pulp and Paper Association.

RS2 - Data on other uses for recovered paper revised to reflect additional information on such uses as recovered paper for animal bedding and for insulation.

RS3 - Recovered paper exports reported by the U.S. Bureau of the Census.

RS4 - Data on other uses revised to reflect 1991 API survey.

R - Revised. P - Preliminary.

TABLE XX

UNITED STATES

RECYCLABLE PAPER RECOVERY

1981 – 1990

(Thousands of Tons)

GRADE AND YEAR	Consumption at Paper and Board Mills	Consumption for Molded Pulp Insulation and Other	Exports RS	Sub Total	Imports	Total
Corrugated						
1982	6,770	–	1,012	7,782	(11)	7,771
1983	7,443	–	1,106	8,549	(14)	8,535
1984	7,972	–	1,409	9,381	(17)	9,364
1985	7,899	–	1,467	9,366	(5)	9,361
1986	8,634	–	1,738	10,372	(7)	10,365
1987	9,177	–	2,134	11,311	(13)	11,298
1988	9,909	–	2,482	12,391	(12)	12,379
1989	9,993 R	–	2,919	12,912	(33)	12,879
1990	10,731 P	–	2,731	13,462	(11)	13,451
Newsprint						
1982	2,486	487	450	3,423	(12)	3,411
1983	2,508	474	504	3,486	(18)	3,468
1984	2,735	459	594	3,788	(15)	3,773
1985	2,696	529	668	3,893	(29)	3,864
1986	2,924	593	801	4,318	(31)	4,287
1987	2,936	657	930	4,523	(30)	4,493
1988	3,012	703	1,069	4,784	(30)	4,754
1989	3,416 R	722 R	1,281	5,419	(24)	5,395
1990	3,843 P	753 P	1,257	5,853	(23)	5,830
Mixed						
1982	1,707	–	442	2,149	(45)	2,104
1983	1,908	–	633	2,541	(62)	2,479
1984	1,975	–	826	2,801	(69)	2,732
1985	1,902	–	854	2,756	(44)	2,712
1986	2,045	–	681	2,726	(43)	2,683
1987	2,116	–	725	2,841	(65)	2,776
1988	2,182	–	823	3,005	(96)	2,909
1989	2,356 R	–	854	3,210	(70)	3,139
1990	2,583 P	–	1,146	3,729	(60)	3,669
Pulp Substitutes						
1982	2,247	–	328	2,575	(1)	2,574
1983	2,456	–	462	2,918	(5)	2,913
1984	2,673	–	627	3,300	(6)	3,294
1985	2,494	–	566	3,060	(3)	3,057
1986	2,761	–	873	3,634	(3)	3,631
1987	2,903	–	1,020	3,923	(2)	3,921
1988	2,890	–	1,579	4,469	(3)	4,466
1989	2,642 R	–	1,253	3,895	(13)	3,882
1990	2,709 P	–	1,371	4,080	(28)	4,052
High Grade Deinking						
1982	1,224	–	140 *	1,224 *	(6)	1,218 *
1983	1,323	–	225 *	1,323 *	(1)	1,322 *
1984	1,369	–	297 *	1,369 *	(3)	1,366 *
1985	1,380	–	290 *	1,380 *	(6)	1,374 *
1986	1,570	–	447 *	1,570 *	(16)	1,554 *
1987	1,563	–	526 *	1,563 *	(18)	1,545 *
1988	1,690	–	842 *	1,690 *	(19)	1,671 *
1989	1,812 R	–	*	1,812 *	*	1,812 *
1990	1,925 P	–	*	1,925 *	*	1,925
Total All Grades						
1982	14,433	487	2,232	17,152	(74)	17,078
1983	15,638	475	2,705	18,818	(100)	18,718
1984	16,724	459	3,456	20,639	(110)	20,529
1985	16,371	529	3,556	20,456	(87)	20,369
1986	17,935	593	4,093	22,621	(100)	22,521
1987	18,694	657	4,809	24,160	(128)	24,032
1988	19,684	703	5,953	26,340	(160)	26,180
1989	20,219 R	722 R	6,307	27,248	(140)	27,108
1990	21,791 P	753 P	6,505	29,049	(123)	28,926

Less than 500 tons. * Exports included with pulp substitutes. R – Revised. P – Preliminary.
RS – Export data, 1980 – 1988, revised to reflect additional data from Canadian Pulp and Paper Association.
Beginning with 1989, export data, as reported by the Bureau of the Census, based on the Harmonized Code System.
The Harmonized Code System combines exports of pulp substitutes with those of high grade deinking.

TABLE XXIA

UNITED STATES PRODUCTION OF WOOD PULP

1980 - 1990

(Thousands of Tons)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
WOOD PULP, TOTAL 1/	52,229	53,397	50,379	53,503	56,520	54,957	57,802	60,240	61,760	62,598	63,667
Total API Grades 2/	50,734	52,042	49,334	52,453	55,470	54,147	57,002	59,550	61,160	61,998	63,067
Sp. Alpha & Dissolving Grades	1,508	1,353	1,092	1,261	1,206	1,174	1,257	1,311	1,367	1,425	1,293
Paper and Board Grades	50,721	52,044	49,287	52,242	55,314	53,783	56,545	58,929	60,393	61,173	62,374
API Paper & Board Grades	49,226	50,689	48,242	51,192	54,264	52,973	55,745	58,239	59,793	60,573	61,774
Total Sulfite	1,844	1,802	1,587	1,616	1,618	1,560	1,439	1,440	1,560	1,563	1,561
Bleached Sulfite	1,459	1,403	1,242	1,306	1,359	1,364	1,275	1,269	1,365	1,373	1,393
Unbl. Sulfite	385	399	345	310	259	196	164	171	195	190	167
Total Sulfate	38,591	39,644	37,891	40,697	43,071	42,136	44,639	46,853	47,933	48,618	49,632
Bl. & Semi-Bl. 3/	19,000	20,070	19,721	21,107	22,350	22,626	24,158	25,411	26,302	26,949	27,559
Unbl. Sulfate	19,591	19,574	18,170	19,590	20,721	19,510	20,481	21,442	21,631	21,669	22,072
Total Groundwood	4,766	5,319	5,064	5,067	5,506	5,251	5,476	5,700	5,943	6,029	6,363
Stone and Refiner	3,602	3,735	3,395	3,225	3,361	3,118	3,010	2,960	3,089	3,058	3,148
Thermo-mechanical	1,164	1,584	1,669	1,842	2,145	2,133	2,466	2,740	2,854	2,971	3,215
Semichemical	4,025	3,924	3,700	3,812	4,069	4,026	4,191	4,246	4,357	4,363	4,219
Total Other	1,495	1,355	1,045	1,050	1,050	810	800	690	600	600	600
Defib. or Exploded 4/	975	850	625	620	620	550	540	440	400	400	400
Scr., Damaged E	80	90	20	30	30	30	30	25	25	25	25
Groundwood E	440	415	400	400	400	230	230	225	175	175	175

SOURCE: Pulp, Materials and Technology Group - API

1/ These totals are comparable to the capacity data published on Table X, Wood Pulp Capacity. Excludes defibrated and exploded wood pulp for hard pressed board.

2/ Excludes Total Other. 3/ Includes Soda Pulp.

4/ Estimated to exclude wood pulp for hardboard. Source of original data is Bureau of the Census. E - Estimated.

TABLE XXIB

UNITED STATES PRODUCTION OF MARKET WOOD PULP

1980 - 1990

(Thousands of Tons)

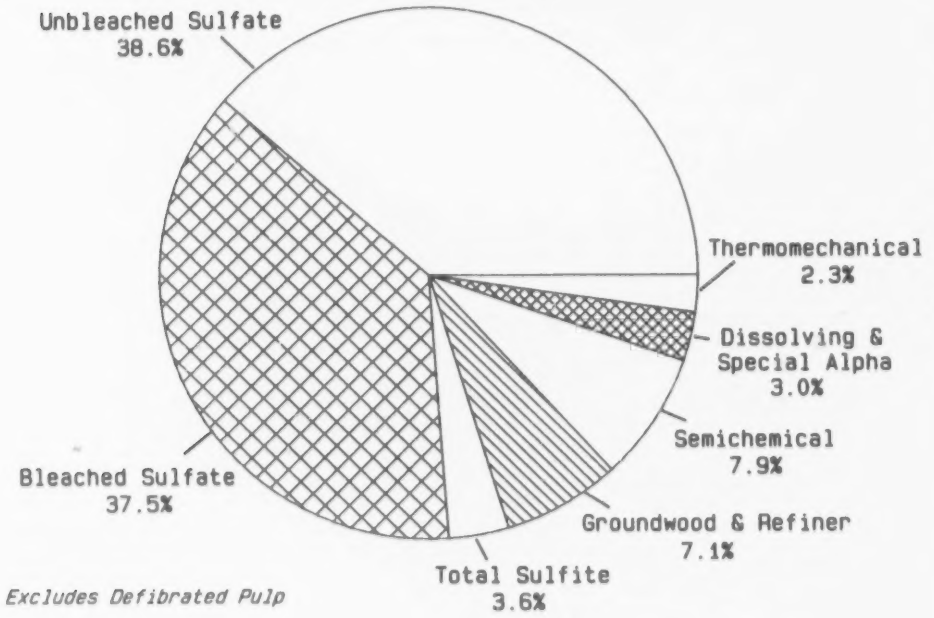
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
MARKET WOOD PULP, TOTAL	6,466	6,202	5,733	6,527	6,899	6,801	7,573	8,112	8,566	8,663	8,797
Sp. Alpha & Dissolving	1,506	1,350	1,089	1,260	1,204	1,172	1,252	1,308	1,365	1,423	1,291
Paper Grade Chemical Total	4,891	4,852	4,643	5,255	5,680	5,614	6,316	6,804	7,201	7,240	7,507
Bleached Sulfite	349	263	205	230	262	223	224	245	266	237	251
Unbleached Sulfite	32	3	0	0	0	0	0	0	0	0	0
Bl. & Semi-Bl. Sulfate	4,378	4,442	4,315	4,883	5,264	5,242	5,939	6,377	6,658	6,842	7,046
Unbleached Sulfate	132	144	123	142	154	149	153	182	277	161	209
Paper Grades - Other	69	0	1	12	15	15	5	0	0	0	0

SOURCE: Pulp, Materials and Technology Group - API

Chart 15

WOOD PULP PRODUCTION—1980

PRODUCTION=50, 734, 000 TONS

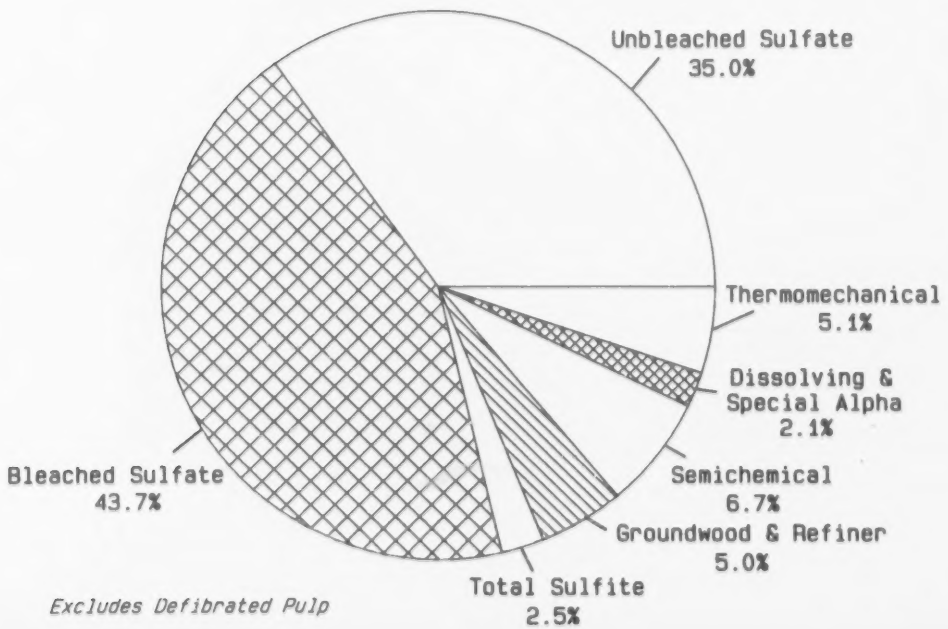


Excludes Defibrated Pulp

Chart 16

WOOD PULP PRODUCTION—1990

PRODUCTION=63, 067, 000 TONS



Excludes Defibrated Pulp

TABLE XXII

CONSUMPTION OF PULPWOOD, WOOD PULP AND OTHER FIBROUS MATERIALS

IN PAPER AND PAPERBOARD MILLS

1980 - 1990

(000 Short Tons)

	1980	1981	1982	1983	1984	1985	1986	1987 R	1988 R	1989 R	1990 P
TOTAL WOOD PULP*	51,181	51,437	48,706	52,072	55,644	54,271	57,792	59,240	60,915	60,791	61,572
WOOD PULP AT PAPER AND PAPERBOARD MILLS	50,120	50,497	48,061	51,422	54,994	53,682	57,222	58,675	60,395	60,251	61,032
Special Alpha and Dissolving Grades	41	38	30	37	34	34	41	34	22	22	22
Bleached Sulfite	1,664	1,591	1,500	1,592	1,660	1,615	1,659	1,779	1,834	1,770	1,705
Unbleached Sulfite	464	464	465	435	413	341	309	296	311	311	266
Bleached Sulfate	18,941	18,992	19,090	20,376	21,755	22,332	23,994	24,593	25,848	25,652	25,981
Unbleached Sulfate	19,707	19,887	18,252	19,803	21,092	19,599	21,108	21,525	21,770	21,929	22,296
Groundwood	4,277	4,391	3,889	3,944	3,877	3,516	3,347	3,256	3,319	3,298	3,364
Thermomechanical	1,078	1,468	1,471	1,670	2,160	2,252	2,527	2,801	2,899	3,004	3,250
Semichemical	3,948	3,666	3,364	3,565	4,003	3,993	4,237	4,390	4,392	4,265	4,146
Defibrated or Expl. E	955	850	625	)	)	)	)	)	)	)	)
				650	650	589	570	565	520	540	540
Scngs, Damaged	106	90	20	)	)	)	)	)	)	)	)
OTHER FIBROUS MATERIALS											
TOTAL	15,524	15,629	14,882	16,069	17,089	16,666	18,248	19,014	20,061	20,537	22,105
Recovered Paper	14,922	15,037	14,433	15,638	16,724	16,371	17,935	18,694	19,684	20,219	21,791
All Other, incl. Straw, Rags, etc.	602	592	449	431	365	295	313	320	377	318	314
ALL FIBROUS MATERIALS											
TOTAL	66,705	67,066	63,588	68,141	72,733	70,937	76,040	78,254	80,976	81,328	83,677
PULPWOOD, TOTAL**	79,703	81,178	76,257	85,442	87,646	85,744	91,434	93,946	95,497	98,414	99,109
Softwood	58,809	59,631	55,954	61,947	62,558	60,610	63,127	65,177	65,997	68,058	68,442
Hardwood	20,894	21,547	20,303	23,495	25,088	25,134	28,307	28,769	29,500	30,356	30,667
Receipts of Residues	29,402	30,590	31,152	32,755	32,072	30,496	32,754	32,899	33,186	34,540	35,727
CONSUMPTION OF WOOD PULP IN OTHER THAN PAPER AND PAPERBOARD MILLS											
TOTAL WOOD PULP	825	788	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Sp.Alpha & Dis.	629	609	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Other Wood Pulps	208	196	179	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

SOURCE: Consumption of wood pulp in paper and board mills, 1977-1989 - Bureau of Census, Industry Division
Consumption of recovered paper - American Paper Institute
Consumption of other fibrous materials - Bureau of Census, Industry Division, 1974-1980; A.P.I., 1981-1990
Consumption of plywood - American Pulpwood Association

* Includes wood pulp consumed at paper, paperboard, construction paper and insulation board mills.

** Includes slabs, chips and mill waste. All pulpwood data in thousands of cords.

R - Revised E - Estimated by American Paper Institute P - Preliminary N.A. - Not Available

NOTE: Details may not add to totals due to rounding of figures to nearest thousand.
Recovered paper consumption - Bureau of the Census data (000 tons)
1972 - 11,703; 1973 - 12,374; 1974 - 12,098; 1975 - 10,367; 1976 - 11,874; 1977 - 12,103;
1978 - 12,586; 1979 - 13,012; 1980 - 12,583; 1981 - 12,872; 1982 - 13,563; 1983 - 14,170; 1984 - 14,944;
1985 - 14,818; 1986 - 15,419; 1987 - 16,996; 1988 - 17,537; 1989 - 17,964. Bleached pulp includes semibleached.

Chart 17

CONSUMPTION OF FIBROUS RAW MATERIALS
AT PAPER AND PAPERBOARD MILLS- 1980

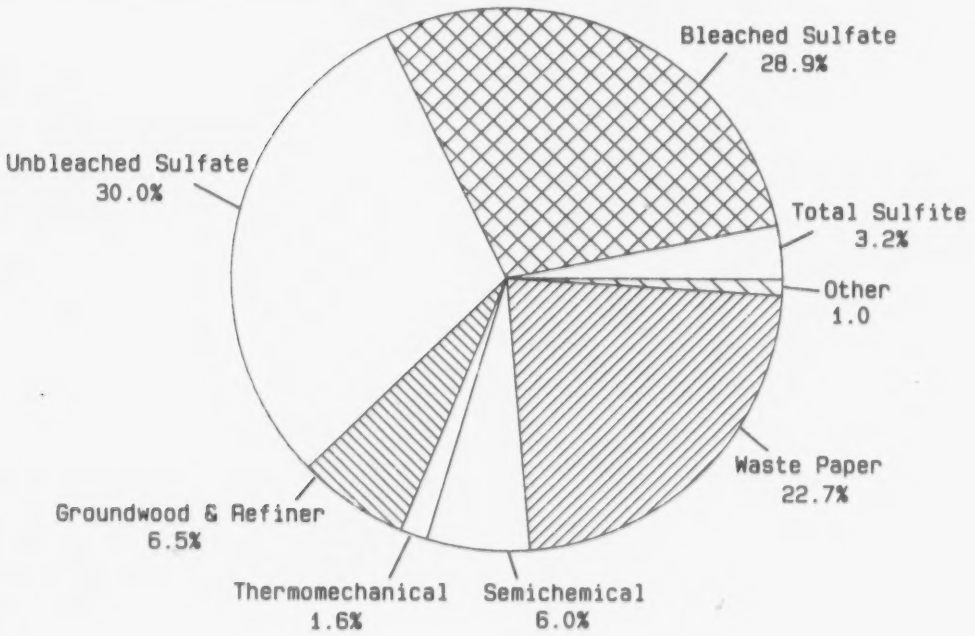


Chart 18

CONSUMPTION OF FIBROUS RAW MATERIALS
AT PAPER AND PAPERBOARD MILLS- 1990

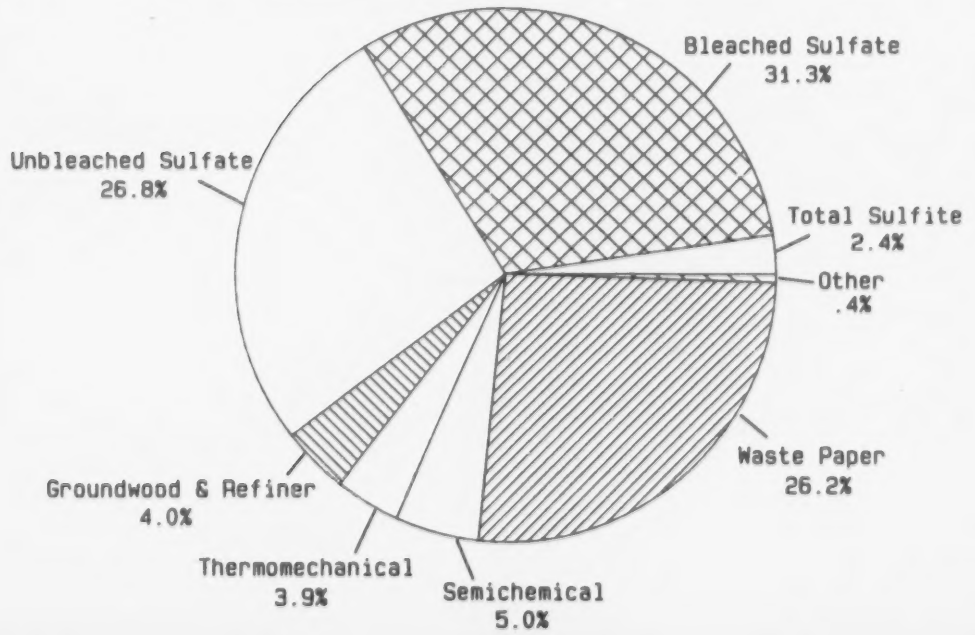


TABLE XXIII

WAGE RATES AND EMPLOYMENT

PAPER AND ALLIED PRODUCTS INDUSTRY

1975 – 1990

YEAR	Average Hourly Earnings (Dollars)	Average Weekly Earnings (Dollars)	Average Weekly Hours	Employees Total (Thousands)	Employees Production Workers (Thousands)
PAPER AND ALLIED PRODUCTS – SIC 26					
1975	5.01	208.42	41.6	642.0	479.7
1976	5.47	232.48	42.5	675.5	508.3
1977	5.96	255.68	42.9	691.6	518.2
1978	6.52	279.71	42.9	698.7	524.7
1979	7.13	303.74	42.6	706.8	535.6
1980	7.84	330.85	42.2	692.8	522.7
1981	8.60	365.50	42.5	688.5	518.4
1982	9.32	385.50	41.8	662.4	493.9
1983	9.93	389.58	42.6	661.2	494.5
1984	10.41	423.02	43.1	680.9	511.6
1985	10.83	448.67	43.1	677.7	512.1
1986	11.18	482.98	43.1	673.7	511.0
1987	11.43	496.06	43.4	680.1	516.3
1988	11.65	503.28	43.2	692.6	523.8
1989	11.93	516.57	43.3	697.4	521.8
1990	12.30	532.59	43.3	699.3	524.3
PAPER AND PULP* – SIC 261,262,266					
1975	5.54	240.44	44.5	196.8	150.3
1976	6.12	272.95	44.6	203.9	156.4
1977	6.75	302.40	44.8	205.4	157.3
1978	7.44	334.80	45.0	200.1	151.1
1979	8.26	372.53	45.1	205.9	154.7
1980	9.15	407.18	44.5	203.3	152.2
1981	10.06	449.68	44.7	203.8	153.2
1982	10.87	480.45	44.2	198.5	149.0
1983	11.70	520.65	44.5	198.0	149.0
1984	12.43	559.35	45.0	200.0	150.6
1985	13.14	591.30	45.0	197.0	149.4
1986	13.63	616.08	45.2	194.5	148.8
1987	14.01	638.86	45.6	191.8	145.9
1988	14.31	648.24	45.3	194.4	147.8
1989	14.73 E	661.55 E	44.9 E	193.4	146.9
1990	15.19 E	684.83 E	45.1 E	193.2	146.3
PAPER MILLS EXCEPT BUILDING PAPER – SIC 262					
1975	5.52	240.67	43.6	170.9	129.5
1976	6.10	273.89	44.9	176.4	134.2
1977	6.70	300.83	44.9	175.7	133.6
1978	7.43	336.58	45.3	170.3	127.6
1979	8.24	374.92	45.5	176.8	131.5
1980	9.09	408.14	44.9	175.0	129.7
1981	10.00	454.00	45.4	175.6	130.9
1982	10.86	485.44	44.7	171.3	127.2
1983	11.70	524.16	44.8	173.7	128.5
1984	12.46	563.19	45.2	175.5	130.7
1985	13.21	774.11	58.6	173.5	130.5
1986	13.70	621.98	45.4	170.2	129.4
1987	14.07	644.41	45.8	166.9	127.8
1988	14.33	650.58	45.4	173.2	131.1
1989	14.65	662.18	45.2	177.9	134.7
1990	15.10	685.52	45.2	179.2	135.4

SOURCE: Bureau of Labor Statistics, Employment and Earnings, Tables B-2 and C-2, U.S. Department of Labor, Washington, D.C.
NOTE: Data on hours and earnings refer to Production Non-Supervisory Workers.
E – Estimated by American Paper Institute
* – Includes Building Paper and Board Mills

TABLE XXIII (Cont.)

WAGE RATES AND EMPLOYMENT

PAPER AND ALLIED PRODUCTS INDUSTRY

1975 – 1990

YEAR	Average Hourly Earnings (Dollars)	Average Weekly Earnings (Dollars)	Average Weekly Hours	Employees Total (Thousands)	Employees Production Workers (Thousands)
PAPERBOARD – SIC 263					
1975	5.74	243.95	42.5	60.8	47.9
1976	6.40	280.32	43.8	65.6	52.2
1977	6.94	312.30	45.0	66.9	52.4
1978	7.67	340.55	44.4	67.3	52.8
1979	8.36	367.88	43.9	65.5	51.9
1980	9.28	408.32	44.0	65.1	51.0
1981	10.23	450.12	44.0	63.5	49.8
1982	11.11	474.40	42.7	60.4	46.7
1983	12.11	525.57	43.4	58.2	44.5
1984	12.99	575.46	44.3	57.2	43.8
1985	13.60	599.76	44.1	55.3	42.4
1986	13.98	619.31	44.3	53.6	40.8
1987	14.30	632.06	44.2	53.6	40.4
1988	14.49	643.36	44.4	52.9	40.2
1989	14.76	661.25	44.8	52.2	40.0
1990	15.26	695.86	45.6	52.1	40.0
MISCELLANEOUS CONVERTED PAPER PRODUCTS – SIC 267					
1975	4.57	185.09	40.5	190.5	133.6
1976	4.92	202.21	41.1	200.8	140.8
1977	5.33	219.60	41.2	210.2	147.5
1978	5.82	239.20	41.1	217.8	155.9
1979	6.31	259.34	41.1	221.4	163.7
1980	6.89	279.73	40.6	219.6	162.7
1981	7.58	310.02	40.9	220.1	162.0
1982	8.20	332.10	40.5	213.5	154.7
1983	8.71	361.47	41.5	214.4	155.8
1984	9.09	379.05	41.7	226.5	165.4
1985	9.33	390.93	41.9	228.5	168.0
1986	9.62	403.08	41.9	229.0	168.8
1987	9.90	416.79	42.1	232.8	172.9
1988	10.10	422.18	41.8	238.6	175.1
1989	10.48	440.16	42.0	241.9	172.8
1990	10.79	454.26	42.1	244.1	176.0
PAPERBOARD CONTAINERS & BOXES – SIC 265					
1975	4.59	186.35	40.6	193.9	148.0
1976	4.95	204.44	41.3	205.2	158.9
1977	5.36	224.05	41.8	209.1	161.0
1978	5.89	247.97	42.1	213.5	164.9
1979	6.37	263.08	41.3	214.0	165.4
1980	6.94	285.93	41.2	204.9	156.8
1981	7.53	312.50	41.5	201.2	153.5
1982	8.16	329.66	40.4	190.0	143.6
1983	8.60	358.62	41.7	190.6	145.1
1984	8.92	377.32	42.3	197.2	151.8
1985	9.24	389.00	42.1	196.9	152.3
1986	9.58	407.15	42.5	196.6	152.6
1987	9.77	416.20	42.6	201.8	157.1
1988	9.99	425.57	42.6	206.8	160.7
1989	10.17	435.28	42.8	209.8	162.1
1990	10.39	442.61	42.6	210.0	162.1

SOURCE: Bureau of Labor Statistics, Employment and Earnings, Tables B–2 and C–2, & Labstat Series Report, U.S. Dept. of Labor, Washington, D.C.

NOTE: Data on hours and earnings refer to Production Non–Supervisory Workers. R – Revised.

TABLE XXIV

PULP, PAPER AND BOARD MILLS

OUTPUT PER MAN-HOUR (R)

1947 - 1990

YEAR	Output per Employee Hour: Production Workers	Output per Employee Hour: All Employees	Output	Employee Hours: Production Workers	Employee Hours: All Employees
			Index: 1982 = 100		
1947	25.9	29.1	30.7	119.1	105.7
1948	N.A.	N.A.	32.0	N.A.	N.A.
1949	27.5	30.4	29.8	108.0	97.9
1950	30.8	34.2	35.6	115.5	104.0
1951	32.4	35.8	38.8	119.8	108.6
1952	31.9	35.0	36.9	115.4	105.4
1953	31.9	35.0	39.4	123.3	112.6
1954	33.3	36.3	40.2	120.3	110.7
1955	35.5	38.8	45.0	126.7	115.9
1956	37.4	40.5	47.7	127.6	117.8
1957	37.7	40.5	46.5	123.2	114.8
1958	38.8	41.5	46.7	120.3	112.5
1959	41.2	44.0	52.0	126.1	118.1
1960	42.9	45.5	53.2	123.7	117.0
1961	45.9	48.4	54.8	119.4	113.3
1962	47.7	50.3	57.7	121.1	114.8
1963	50.5	53.3	60.8	120.4	114.3
1964	53.0	56.0	64.7	121.9	115.6
1965	56.0	58.8	68.5	122.3	116.5
1966	58.8	61.7	73.8	125.5	119.7
1967	58.1	60.7	73.6	126.6	121.2
1968	61.4	64.5	79.1	128.8	122.6
1969	63.7	67.1	83.3	130.7	124.1
1970	66.7	69.6	82.5	123.7	118.6
1971	70.5	72.7	83.4	118.3	114.7
1972	76.3	78.9	90.0	118.0	114.0
1973	79.4	82.2	94.2	118.7	114.6
1974	79.6	82.2	93.8	117.8	114.1
1975	77.1	77.8	79.6	103.2	102.3
1976	83.6	85.4	92.7	110.9	108.6
1977	87.9	89.8	97.0	110.3	108.0
1978	91.3	92.7	99.3	108.8	107.1
1979	93.5	94.7	102.8	110.0	108.6
1980	93.5	94.4	102.1	109.2	108.1
1981	92.7	93.8	99.3	107.1	105.9
1982	100.0	100.0	100.0	100.0	100.0
1983	106.7	107.4	107.6	100.8	100.2
1984	108.2	108.7	111.6	103.1	102.7
1985	111.1	110.6	112.1	100.9	101.4
1986	119.7	120.1	118.9	99.3	99.0
1987	123.9	124.0	123.0	99.3	99.2
1988	127.5	127.6	127.2	99.8	99.7
1989	125.9	126.5	126.8	100.7	100.2
1990 E	128.8	129.3	130.0	100.9	100.5

SOURCE: U.S. Department of Labor - Bureau of Labor Statistics: 1967 - 1989.
American Paper Institute calculations from BLS data: 1947 - 1966, 1990.

R - Revised
E - Estimated

TABLE XXV

COMPENSATION OF EMPLOYEES IN THE PAPER AND ALLIED PRODUCTS INDUSTRY

IN THE GROSS NATIONAL PRODUCT ACCOUNTS

1948 - 1989

YEAR	COMPENSATION OF EMPLOYEES Total	Wages and Salaries	Supplements to Wages & Salaries*	Corporate Capital Consumption Allowance	Number of Full Time Equivalent Employees	Number of Full Time & Part Time Employees	Average Annual Earnings per Full Time Equivalent Employee
	(Millions of Dollars)				(000)	(000)	(Dollars)
1948	1,577	1,501	76	122	470	470	3,194
1949	1,548	1,465	83	140	451	453	3,248
1950	1,788	1,686	102	154	482	485	3,498
1951	2,057	1,923	134	179	504	510	3,815
1952	2,143	2,004	139	204	497	504	4,032
1953	2,375	2,224	151	234	523	533	4,252
1954	2,457	2,292	165	275	522	534	4,391
1955	2,684	2,499	185	338	537	551	4,654
1956	2,919	2,712	207	370	554	570	4,895
1957	3,038	2,812	226	419	555	567	5,067
1958	3,117	2,868	249	464	542	558	5,292
1959	3,436	3,152	284	474	567	582	5,559
1960	3,596	3,288	308	496	576	592	5,708
1961	3,791	3,464	327	541	582	599	5,952
1962	4,042	3,678	364	653	598	615	6,151
1963	4,222	3,828	394	665	605	622	6,327
1964	4,446	4,028	418	721	607	625	6,636
1965	4,696	4,250	446	734	628	640	6,768
1966	5,133	4,616	517	771	656	667	7,037
1967	5,415	4,876	539	837	672	680	7,256
1968	5,885	5,267	618	898	681	691	7,734
1969	6,496	5,768	728	955	705	713	8,182
1970	6,788	5,994	794	1,007	694	702	8,637
1971	7,039	6,172	867	1,060	669	679	9,226
1972	7,708	6,704	1,004	1,167	674	684	9,947
1973	8,466	7,290	1,176	1,249	689	700	10,581
1974	9,216	7,885	1,331	1,281	688	701	11,461
1975	9,350	7,921	1,429	1,435	628	642	12,613
1976	10,909	9,167	1,742	1,667	662	673	13,847
1977	12,192	10,182	2,010	1,889	679	692	14,996
1978	13,498	11,219	2,279	2,126	690	700	16,259
1979	14,965	12,379	2,586	2,128	697	707	17,760
1980	16,199	13,384	2,815	2,564	681	691	19,653
1981	17,658	14,541	3,117	2,842	679	687	21,409
1982	18,250	14,994	3,256	3,287	649	663	23,103
1983	19,459	15,994	3,465	3,403	650	662	24,605
1984	21,180	17,476	3,704	4,304	666	680	26,240
1985	21,986	18,280	3,706	5,157	667	679	27,406
1986	23,043	19,127	3,916	5,158	664	676	28,806
1987R	24,117	20,030	4,087	5,723	674	683	29,718
1988R	25,433	21,128	4,305	N.A.	682	693	30,979
1989P	26,676	22,118	4,558	N.A.	693	703	31,916
1990E	27,550	22,810	4,740	N.A.	690	700	33,058

SOURCE: Bureau of Economic Analysis, Department of Commerce, Gross National Product Accounts, Table 6.

* - Total Less Wages and Salaries

P - Preliminary R - Revised E - Estimated N.A. - Not Available

TABLE XXVI

PAPER AND ALLIED PRODUCTS

CAPITAL EXPENDITURES

1947 – 1991

(Million Dollars)

YEAR	BY PAPER AND ALLIED PRODUCTS COMPANIES	Total SIC 26	PRIMARY MILLS					CONVERTING PLANTS			
			Total Primary 261–3,6	Pulp Mills 261	Paper Mills 262	Paperboard Mills 263	Building Paper & Board Mills 266	Total Converting 264,5	Converted Paper Products 264	Paperboard Containers & Boxes 265	
1947	370	407	291	86	(205)	a		116	64	52	
1948	383	----------	----------	----------	----------	N.A.	----------	----------	----------	----------	
1949	298	315	212	(212 a)		a		103	52	51	
1950	327	299	212	(212 a)		a		87	51	36	
1951	420	389	263	(263 a)		a		126	61	65	
1952	364	371	274	(274 a)		a		97	61	36	
1953	409	397	276	(276 a)		a		121	74	47	
1954	455	533	371	(371 a)		a		162	(162)		
1955	510	556	389	(389 a)		a		167	(167)		
1956	800	750	548	(548 a)		a		202	106	96	
1957	810	767	585	(585 a)		a		182	(182)		
1958	570	634	417	43	259	102	13	218	82	136	
1959	660	686	453	92	215	117	29	b 233	79 i	154	
1960	770	658	442	35	246	136	25	b 216	1071 i	109	
1961	620	685	473	49	285	108	31	b 212	99	113	
1962	620	742	459	34	277	126	22	b 283	122 i	161	
1963	700	7[illegible]	440	39	233	160	8	270	129	141	
1964	910	902	589	67	296	214	12	313	153	160	
1965	1,020	1,186	826	112	496	200	18	359	180	179	
1966	1,320	1,422	961	113	575	255	18	461	212	249	
1967	1,490	1,585	1,122	122	581	399	20	463	226	237	
1968	1,220	1,238	766	77	487	185	17	473	231	242	
1969	1,620	1,421	879	133	555	158	33	543	263	280	
1970	1,740	1,397	882	122	503	239	18	516	289	227	
1971	1,290	1,197	755	135	374	228	18	442	262	180	
1972	1,460	1,335	841	136	372	314	19	495	289	206	
1973	1,990	1,530	997	119	508	344	26	531	304	227	
1974	2,880	2,214	1,558	136	723	637	63	657	315	342	
1975	2,930	2,718	1,959	294	832	807	26	759	412	347	
1976	2,990	3,010	2,282	375	1,044	844	19	729	394	335	
1977	3,480	3,295	2,367	301	1,115	934	17	928	507	421	
1978	3,780 R	3,736	2,638	195	1,424	1,000	19	1,100	604	496	
1979	5,180 R	4,447 *	3,231	240	1,714	1,229	48	1,216	725	491	
1980	6,390 R	5,128 *	3,726	250	1,897	1,539	40	1,402	774	628	
1981	5,950 R	5,202	3,957	521	2,435	974	27	1,245	746	499	
1982	5,470 R	5,087	3,820	659	1,869	1,278	14	1,267	780	487	
1983	5,730 R	4,987	3,497	916	2,239	527	15	1,290	820	470	
1984	6,900 R	5,302	3,713	600	2,412	680	21	1,587	906	681	
1985	8,140 R	6,273	4,290	745	2,484	1,043	18	1,982	1,218	764	
1986	8,260 R	6,084	4,038	875	2,153	1,000	10	2,046	1,247	799	
1987 R	8,540 R	5,753	3,764 *1)	231	2,760 1)	773	N.A. 3)	1,989	1,200 2)	789	
1988	10,920 R	7,211	5,126 1)	309	3,300 1)	1,518	N.A. 3)	2,084	1,251	833	
1989	15,580 R	----------	----------	----------	----------	N.A.	----------	----------	----------	----------	
1990	16,530 P	----------	----------	----------	----------	N.A.	----------	----------	----------	----------	
1991	11,930 E	----------	----------	----------	----------	N.A.	----------	----------	----------	----------	

SOURCE: Paper and Allied Products Companies, Bureau of Economic Analysis.
Paper and Allied Products Establishments, Bureau of the Census.

NOTE: Establishment data for 1982, 1972, 1967, 1962, 1958, 1954 and 1947 from Census of Manufactures; data for other years from Survey of Manufactures.

(a) Capital expenditures at building paper and board mills included with expenditures at pulp, paper and board mills.

(b) Data as originally published. (i) Imputed from available data.

N.A. – Not Available P – Preliminary R – Revised E – Estimated by the Department of Commerce

* – Based on revised sampling techniques which resulted in some understatement of the total.

1) Includes building paper. 2) Revised to SIC 267. 3) Building paper included in 262; Insulating board moved to 24.

TABLE XXVIIA

PULP AND PAPER INDUSTRY

ENVIRONMENTAL PROTECTION

1966 – 1990

(Million Dollars)

YEAR	Water	Air	Solid Waste Disposal From Manufacturing	Total	Percent of Total Capital Expenditures
Through 1966	270	129	10	409	
1967	44	31 E	1 E	76	
1968	49	43	1	93	
1969	74	52	2	128	
1970	120	65	2	187	
1971	134	66	3	203	
1972	205	129	5	339	38%
1973	179	162	10	351	34%
1974	216	296	11	523	31%
1975	286	341	18	645	30%
1976	319	216	29	564	29%
1977	278	148	17	443	19%
1978	182	149	32	363	16%
1979	178	158	23	359	12%
1980	140	190	38	368	9%
1981	91	120	49	260	6%
1982	81	214	23	318	9%
1983	118	149	60	327	6%
1984	62	130	34	226	6%
1985	121	175	46	342	7%
1986	80	109	48	237	4%
1987	93	242	68	403	10%
1988	129	360	83	572	11%
1989	401	464	174	1,039	11%
Through 1989	3,850	4,138	787	8,775	
Planned 1990	677	393	199	1,269	

SOURCE: National Council of the Paper Industry for Air and Stream Improvement
E – Estimate

TABLE XXVIIB

EXPENDITURES ON

RESEARCH

AND DEVELOPMENT

1966–1990

(Million Dollars)

YEAR	Total Expenditures
1966	117
1967	128
1968	144
1969	188
1970	178
1971	187
1972	189
1973	194
1974	237
1975	249
1976	313
1977	333
1978	387
1979	445
1980	495
1981	566
1982	566
1983	552
1984	594
1985	576
1986	538
1987	604 R
1988	664 R
1989	683
1990	N.A.

SOURCE: National Science Foundation
R – Revised

TABLE XXVIII

WOOD SUPPLY AND DEMAND

	Total	North-east	North Central	Great Plains	South-east	South Central	Pacific Northwest	Pacific Southwest	Rocky Mountain
Commercial: Forest Land in U.S. January 1, 1987	483.3	80.1	74.6	3.5	84.6	110.8	54.7	17.4	57.6
	---------- Million Acres ----------								
Ownership									
Total Private	347.0	70.3	53.4	2.3	75.8	99.9	22.7	7.8	14.7
Forest Industry Companies	70.6	12.6	4.4	0.0	16.8	21.4	9.7	2.8	2.9
Other Private	276.4	57.7	49.0	2.3	59.0	78.4	13.0	5.1	11.8
Total Public	136.4	9.8	21.2	1.2	8.8	10.9	32.0	9.6	42.9
National Forest	85.2	2.2	7.3	0.9	4.9	6.9	19.5	8.7	34.8
Other Public	51.1	7.6	14.0	0.3	3.9	4.0	12.5	0.9	8.1
	---------- Million Cubic Feet ----------								
All Species									
Total Growth	22,526	2,948	2,564	86	5,169	5,260	3,412	1,046	2,041
Removals	16,451	1,302	1,406	42	4,167	4,531	3,342	830	829
Ratio of Growth to Removals	1.37	2.26	1.82	2.04	1.24	1.16	1.02	1.26	2.46
Softwoods									
Total Growth	12,870	702	587	47	2,972	2,877	2,877	889	1,909
Removals	11,367	521	205	26	2,836	2,906	3,239	819	817
Ratio of Growth to Removals	1.13	1.35	2.87	1.84	1.05	0.99	0.89	1.09	2.34
Hardwoods									
Total Growth	9,656	2,246	1,977	38	2,197	2,383	535	157	131
Removals	5,083	781	1,202	16	1,332	1,626	104	12	12
Total Growth	1.90	2.88	1.65	2.36	1.65	1.47	5.07	13.54	11.29

States by Region

Northeast	North Central	Great Plains	Southeast	South Central	Pacific Northwest	Pacific Southwest	Rocky Mountain
Connecticut	Illinois	Kansas	Florida	Alabama	Alaska	California	Arizona
Delaware	Indiana	Nebraska	Georgia	Arkansas	Oregon	Hawaii	Colorado
Maine	Iowa	North Dakota	N. Carolina	Kentucky	Washington		Idaho
Maryland	Michigan	South Dakota	S. Carolina	Louisiana			Montana
Massachusetts	Minnesota		Virginia	Mississippi			Nevada
New Hampshire	Missouri			Oklahoma			New Mexico
New Jersey	Ohio			Tennessee			Utah
New York	Wisconsin			Texas			Wyoming
Pennsylvania							
Rhode Island							
Vermont							
West Virginia							

SOURCE: An Analysis of the Timber Situation in the United States: 1989 - 2040
Part I: The Current Resource and Use Situation
A Technical Document Supporting the 1989 RPA Assessment
Tables 3.2; 3.28; 3.29
Forest Service, U.S. Department of Agriculture
Data on Growth, Removals and Mortality refer to 1986

SECTION IV

FINANCIAL DATA ON THE PAPER INDUSTRY

The softness in the markets for paper and paperboard evident in 1989 continued through 1990. In the face of a 2.6% increase in paper and paperboard production and a 1.5% increase in market pulp production, sales of paper and allied products companies rose 1.0% from 1989 to 1990 (Table XXIX).

The weakness in the marketplace is also reflected in the paper industry price indexes reported by the Bureau of Labor Statistics (Tables XXXA and XXXB). The index of pulp, paper and products prices rose 0.4% in 1990, with declines of 0.6% in paper, 3.1% in paperboard and 3.9% in wood pulp offset by a 2.7% gain in converted products. The price indexes of all commodities and industrial commodities rose 3.7% and 3.8%, respectively.

Market forces had a major impact on paper industry profits. After-tax profits in 1990 were 31.2% below their 1989 level, driving the profit/sales ratio down to 4.2% and the return on stockholders' equity to 10.4%. These ratios are similar to those reported in the 1984-1986 period, when the industry was recovering from the impact of the 1982 recession. More usual was the trend evident from 1976 through 1981, when the profit margin on sales was generally above 5% and the return on equity near 12%.

The industry's cash flow (net profits after taxes plus depreciation) fared much better, with the 1990 total remaining above the $10 billion level, reflecting the effects of the high levels of expenditures on new plant and equipment (see Section III, Table XXVI).

For the past ten years the industry's cash flow totals have generally been below its capital expenditures, in contrast to the previous experience. This is highlighted in the data on long-term debt presented on the second page of Table XXIX. The 1990 debt to capital ratio (long-term debt to the sum of stockholders' equity plus long-term debt) was initially reported at 46.2%, which compares to 1989's 43.1% and the 30-33% range from 1971 through 1984. The revised ratio of 47.0% reflects a change in the companies included in the paper and allied products group.

While market conditions have kept industry profits down during the past two years, paper and allied products mills and plants continue to operate at world-class efficiency. Table XXIV in Section III measured the long-term gains in employee hours. The impact of this shows up in Table XXXI: General Statistics for the Paper and Allied Products Industry. In 1988, for example, payroll costs were equivalent to 14.4% of the value of shipments. The 1978 ratio (reported in an earlier edition of the Statistics of Paper, Paper and Wood Pulp), was 17.3%. Raw material costs have also been reduced: the 1988 ratio was 53.7% of the value of shipments; the 1978 ratio, 57.3%.

TABLE XXIX

PAPER AND ALLIED PRODUCTS INDUSTRY

PROFIT AND LOSS DATA, CASH INFLOW AND SELECTED BALANCE SHEET DATA

1950 – 1990

(Millions of Dollars)

YEAR	Net Sales	Net Profit Before Taxes	Net Profit Before Taxes To Net Sales (%)	Income Taxes	Net Profit After Taxes	Net Profit After Taxes To Net Sales (%)	Depreci-ation	Cash Inflow	Gross Cash Flow
1950	6,377	982	15.4	424	558	8.8	162	720	1,144
1951	8,022	1,417	17.7	858	559	6.9	183	742	1,600
1952	7,688	1,000	13.0	563	437	5.7	222	659	1,222
1953	8,371	1,005	12.0	554	450	5.4	242	692	1,246
1954	8,492	970	11.4	493	479	5.6	268	718	1,211
1955	9,847	1,206	12.2	601	604	6.1	310	917	1,515
1956	10,686	1,283	12.0	626	657	6.1	360	1,017	1,643
1957	10,420	1,020	9.8	497	521	5.0	376	897	1,394
1958 1/	10,256	899	8.8	440	460	4.5	406	866	1,306
1958 2/	10,658	987	9.3	481	506	4.7	423	929	1,410
1959	11,824	1,204	10.2	585	619	5.2	459	1,078	1,663
1960	11,764	1,135	9.6	546	587	5.0	480	1,069	1,613
1961	12,525	1,120	8.9	535	583	4.7	531	1,114	1,649
1962	13,698	1,212	8.8	584	628	4.6	583	1,211	1,795
1963	14,050	1,215	8.6	581	634	4.5	615	1,249	1,830
1964	14,771	1,312	8.9	557	754	5.1	641	1,395	1,952
1965 1/	16,224	1,488	9.2	619	869	5.4	671	1,539	2,159
1965 2/	15,217	1,271	8.4	517	753	4.9	632	1,385	1,902
1966	17,016	1,544	9.1	633	911	5.4	676	1,587	2,220
1967 3/	16,900	1,316	7.8	523	796	4.7	723	1,519	2,039
1968	18,738	1,534	8.2	645	889	4.7	780	1,669	2,314
1969	20,607	1,675	8.1	688	987	4.8	821	1,808	2,496
1970	21,069	1,211	5.7	492	719	3.4	869	1,588	2,080
1971 1/	22,224	967	4.4	455	512	2.3	926	1,438	1,893
1971 2/	----------	----------	----------	----------	N.A.	----------	----------	----------	----------
1972	23,324	1,584	6.8	643	941	4.0	959	1,900	2,543
1973 1/	26,503	2,481	9.4	1,040	1,441	5.4	1,012	2,453	3,493
1973 2/	----------	----------	----------	----------	N.A.	----------	----------	----------	----------
1974 1/	30,799	3,692	12.0	1,511	2,183	7.1	1,032	3,215	4,724
1974 2/	32,837	3,792	11.5	1,502	2,287	7.0	1,063	3,350	4,855
1975	32,044	2,901	5.7	1,099	1,801	5.6	1,219	3,019	4,120
1976	39,270	3,643	9.3	1,374	2,270	5.8	1,382	3,652	5,025
1977 1/	41,926	3,442	8.2	1,207	2,234	5.3	1,548	3,782	4,989
1977 2/	45,750	3,632	7.9	1,266	2,367	5.2	1,663	4,030	5,296
1978 1/	49,683	4,097	8.2	1,447	2,648	5.3	1,767	4,415	5,864
1978 2/	48,982	4,036	8.2	1,436	2,598	5.3	1,726	4,324	5,762
1979	55,359	5,406	9.8	1,683	3,723	5.7	1,896	5,619	7,302
1980 1/	59,333	4,318	7.3	1,275	3,042	5.1	2,075	5,119	6,392
1980 2/	54,737	4,014	7.3	1,233	2,781	5.1	1,990	4,771	6,004
1980 3/E	56,250	4,045	7.2	1,245	2,800	5.0	2,026	4,826	6,071
1981 1/	62,502	4,728	7.6	1,621	3,108	5.0	2,253	5,361	6,981
1981 2/	62,699	4,728	7.5	1,617	3,110	5.0	2,267	5,377	6,995
1982	60,293	2,120	3.5	660	1,460	2.4	2,379	3,839	4,499
1983 1/	66,100	3,439	5.2	1,102	2,337	3.5	2,645	4,982	6,084
1983 2/	65,008	3,424	5.3	1,096	2,327	3.6	2,607	4,934	6,031
1984	71,891	4,812	6.7	1,798	3,015	4.2	2,798	5,813	7,611
1985 1/	71,781	4,424	6.2	1,533	2,891	4.0	3,107	5,998	7,531
1985 2/	71,465	4,399	6.2	1,519	2,880	4.0	3,099	5,979	7,498
1986 1/	74,896	5,318	7.1	2,025	3,293	4.4	3,390	6,683	8,708
1986 2/4/	74,844	5,298	7.1	2,018	3,280	4.4	3,389	6,669	8,687
1987 1/	86,803	8,077	9.3	3,088	4,989	5.8	3,827	8,816	11,904
1987 2/	95,576	8,860	9.3	3,338	5,520	5.8	4,279	9,799	13,139
1988 1/	107,014	12,204	11.4	4,127	8,077	7.5	4,620	12,697	16,824
1988 2/	107,221	12,210	11.4	4,129	8,081	7.5	4,625	12,706	16,835
1989 1/	112,238	10,771	9.6	3,771	7,000	6.2	4,954	11,954	15,725
1989 2/	113,573	10,865	9.6	3,819	7,047	6.2	5,010	12,057	15,875
1990 1/	114,686	7,187	6.3	2,343	4,844	4.2	5,535	10,379	12,722
1990 2/	115,523	7,236	6.3	2,353	4,882	4.2	5,578	10,460	12,814

SOURCE: Yearly data calculated by API from Quarterly Financial Report for Manufacturing, Mining and Trade Corporations, now reported by the Bureau of Census.

NOTE: 1/ Data is from Source consistent with earlier reports. 2/ Revised series – change in corporations included in industry. 3/ Series revised based on change in adjustment factors. 4/ Excludes companies with less than $250,000 in assets. N.A. – Not Available E – Estimated by API with assistance from FTC

TABLE XXIX (Cont.)

PAPER AND ALLIED PRODUCTS INDUSTRY

PROFIT AND LOSS DATA, CASH INFLOW AND SELECTED BALANCE SHEET DATA

1950 – 1990

(Millions of Dollars)

YEAR	Cash Dividends	Retained Earnings	Net Cash Flow	Total Assets	Property Plant & Equipment Gross	Property Plant & Equipment Net	Net Worth	Long-Term Debt	Total Capital	Net Profit After Taxes To Net Worth (%)
1950	178	380	542	5,055	N.A.	2,285	3,585	490	4,075	15.6
1951	200	359	542	6,005	N.A.	2,600	3,963	625	4,588	14.1
1952	196	241	463	6,301	4,643	2,777	4,298	784	5,082	10.1
1953	203	247	489	6,825	5,349	3,273	4,559	803	5,362	9.9
1954	227	252	520	7,085	5,694	3,387	4,963	908	5,871	9.7
1955	259	345	655	7,795	6,171	3,623	5,403	1,010	6,413	11.2
1956	273	384	744	8,492	7,028	4,213	5,772	1,286	7,058	11.4
1957	270	251	627	8,407	7,502	4,509	5,809	1,309	7,118	8.9
1958 1/	265	195	601	8,829	7,941	4,652	6,089	1,472	7,561	7.6
1958 2/	286	220	643	9,170	8,200	4,818	6,341	1,500	7,841	8.0
1959	290	329	788	9,721	8,740	5,062	6,642	1,512	8,154	9.3
1960	312	275	755	10,087	9,432	5,385	6,956	1,622	8,578	8.4
1961	328	256	786	11,051	10,447	5,857	7,612	1,719	9,331	7.8
1962	340	288	871	11,670	11,058	6,062	7,766	1,953	9,719	8.1
1963	348	286	901	11,859	11,420	6,079	7,886	1,964	9,850	8.0
1964	376	378	1,019	12,580	12,380	6,585	8,304	1,967	10,271	9.1
1965 1/	409	461	1,132	13,850	13,378	7,321	8,672	2,439	11,111	10.0
1965 2/	350	403	1,035	13,017	13,047	7,053	8,165	2,447	10,612	9.2
1966	372	539	1,215	14,621	14,662	8,131	8,710	3,104	11,814	10.5
1967 2/	391	405	1,128	15,645	15,403	8,579	9,011	3,736	12,747	8.8
1968	396	493	1,273	16,809	16,059	8,964	9,303	4,199	13,502	9.6
1969	418	569	1,390	18,794	17,169	9,529	10,212	4,267	14,479	9.7
1970	430	289	1,158	19,679	18,160	9,969	10,305	4,822	15,127	7.0
1971 1/	418	94	1,020	20,424	19,001	10,194	10,652	5,239	15,891	4.8
1971 2/	N.A.	N.A.	N.A.	19,582	18,558	9,987	10,326	5,137	15,463	N.A.
1972	377	564	1,523	19,810	18,816	9,903	10,615	4,973	15,588	8.9
1973 1/	416	1,025	2,037	21,377	19,998	10,616	11,536	5,073	16,609	12.5
1973 2/	N.A.	N.A.	N.A.	20,506	18,740	9,888	11,166	4,935	16,101	N.A.
1974 1/	519	1,668	2,700	23,696	19,093	11,524	12,958	5,346	18,304	16.8
1974 2/	530	1,754	2,817	26,088	21,856	12,012	13,602	6,457	20,059	16.8
1975	632	1,158	2,377	28,220	24,265	13,773	14,878	7,193	22,071	12.1
1976	660	1,601	2,963	32,010	27,284	15,659	17,203	7,625	24,828	13.2
1977 1/	725	1,502	3,050	34,450	29,545	17,131	18,321	8,551	26,872	12.2
1977 2/	793	1,566	3,229	37,047	31,866	18,590	19,704	9,254	28,958	12.0
1978 1/	877	1,771	3,838	40,810	34,420	20,226	21,181	10,082	31,263	12.5
1978 2/	859	1,739	3,465	40,118	33,563	19,644	20,794	9,900	30,694	12.5
1979	975	2,746	4,642	45,304	37,069	22,349	23,206	11,028	34,234	16.0
1980 1/	1,089	1,967	4,032	50,040	41,403	25,739	25,889	11,850	37,739	11.8
1980 2/	1,050	1,731	3,721	44,866	39,534	24,391	23,873	10,366	34,238	11.6
1980 3/E	1,057	1,743	3,769	45,894	40,361	24,800	24,396	10,585	34,981	11.5
1981 1/	1,161	1,947	4,200	50,706	44,942	27,747	26,452	11,633	38,085	11.7
1981 2/	1,128	1,984	4,251	50,912	45,122	27,881	26,558	11,705	38,263	11.7
1982	1,104	355	2,735	52,915	48,235	29,711	26,705	13,149	39,854	5.5
1983 1/	1,139	1,197	3,842	58,126	51,692	32,208	27,509	13,946	41,455	8.5
1983 2/	1,137	1,191	3,798	54,821	50,957	31,826	27,219	13,565	40,784	8.5
1984	1,217	1,798	4,596	58,520	53,882	34,563	28,160	13,802	41,962	10.7
1985 1/	1,242	1,649	4,756	62,613	60,485	38,881	29,780	15,262	45,042	9.7
1985 2/	1,240	1,640	4,739	62,505	60,341	38,835	29,694	15,262	44,956	9.7
1986 1/	1,361	1,932	5,322	69,132	64,902	42,339	31,254	18,920	50,174	10.5
1986 2/4/	1,356	1,924	5,313	69,082	64,902	42,339	31,221	18,906	50,127	10.5
1987 1/	1,478	3,511	7,338	76,791	70,856	45,898	35,102	20,152	55,254	14.2
1987 2/	1,687	3,833	8,112	85,279	78,495	50,634	39,217	22,417	61,634	14.1
1988 1/	1,700	6,377	10,997	95,295	85,747	55,439	42,933	27,068	70,001	18.8
1988 2/	1,700	6,381	11,006	95,444	85,830	55,520	42,940	27,180	70,120	18.8
1989 1/	3,163	3,836	8,790	107,572	96,336	62,723	45,888	33,193	79,081	15.3
1989 2/	3,183	3,864	8,874	109,038	96,449	62,804	45,642	34,543	80,185	15.4
1990 1/	2,407	2,437	7,972	116,812	104,734	68,096	48,462	39,961	88,423	10.4
1990 2/	2,351	2,530	8,108	117,335	105,489	68,728	45,951	40,720	86,671	10.8

See Page 68 for footnotes

Net Cash Flow = Retained Earnings + Depreciation

Cash Inflow = Net Profit After Taxes + Depreciation

Gross Cash Flow = Net Profit Before Taxes + Depreciation

Total Capital = Net Worth + Long-Term Debt

TABLE XXXA
PRODUCERS PRICE INDEXES
FOR COMMODITY GROUPING AND INDIVIDUAL ITEMS
WOOD PULP, PAPER, PAPERBOARD AND CONVERTED PRODUCTS
1983 – 1990
(Index 1982 = 100)

	1982 BLS Price Codes	1983	1984	1985	1986	1987	1988	1989	1990
PULP, PAPER & ALLIED PRODUCTS	09	103.3	110.3	113.3	116.1	121.8	130.4	137.8	141.2
PULP, PAPER & PRODUCTS, exc. Building Paper & Board	091	99.3	107.3	106.9	107.6	114.3	124.8	132.4	132.9
Wood Pulp Sub–Group	0911	91.5	104.8	91.4	94.7	111.5	136.7	157.4	151.3
Paper Making Wood pulp	091102	89.8	106.3	88.2	95.6	120.6	151.6	175.0	162.6
Sulfate, Bleached	09110211	88.7	111.0	89.8	98.1	124.3	156.1	182.5	173.5
Bleached Sulfate Hardwood Pulp	09110212	N.A.	111.6	93.3	97.0	115.0	147.8	165.3	147.1
Other Dec/82	09110223	N.A.	N.A.	110.8	110.0	116.3	124.5	129.5	115.2
Dissolving Wood Pulp	091103	96.1	97.5	96.7	96.2	98.6	111.4	132.4	136.7
Waste Paper Sub–Group	0912	N.A.	198.2	122.9	142.6	181.4	183.6	157.1	138.9
News	091201	N.A.	267.8	208.1	191.3	243.9	239.9	124.4	104.2
Mixed	091202	N.A.	173.0	147.2	129.0	153.1	168.7	115.3	86.9
Old Corrugated Boxes	091203	N.A.	317.8	155.0	238.1	313.3	250.5	180.4	165.6
High Grade (Pulp.substit. & deink.)*	091207	N.A.	N.A.	N.A.	N.A.	109.1	131.9	136.2	120.0
Exports*	091208	N.A.	N.A.	N.A.	N.A.	125.9	128.8	113.9	101.2
Paper Sub–Group	0913	98.5	105.8	106.0	107.0	111.5	123.2	129.6	128.8
Writing Papers, excluding Newsprint	091301	99.5	108.2	107.4	107.9	110.6	123.4	130.5	129.1
Uncoated groundwood, publ. and printg.	09130111	96.2	101.4	103.0	103.3	107.7	115.3	118.7	117.4
No. 3 clay coated, 2–sides	09130113	101.7	110.6	115.6	115.3	116.9	124.2	129.9	130.2
No. 5 clay coated, 2–sides	09130115	96.7	112.1	122.4	116.1	108.3	125.6	129.6	127.0
Printing Paper, Ctd. 2 Sides, Other Grades	09130116	101.1	112.3	118.0	116.4	117.4	126.3	131.7	132.1
Printing Paper, Ctd. 1 Side	09130117	101.6	108.2	110.3	111.2	116.1	126.5	133.5	137.6
Offset uncoated book paper	09130122	98.7	105.7	100.5	101.7	105.3	118.4	125.5	122.6
Uncoated publ. & prntg. free sheet	09130123	97.4	103.2	97.7	98.9	103.9	N.A.	123.2	123.2
Unwatermarked bond, no. 4 grade	09130131	100.3	103.8	101.9	102.1	103.6	117.1	127.9	123.1
Watermarked bond	09130132					N.A.	128.8	136.5	136.9
12 lb. form bond, in rolls	09130133					N.A.	123.6	127.4	124.9
15 lb. form bond, in rolls	09130134	97.7	108.0	94.0	93.8	102.4	117.7	121.8	119.2
Form bond, in rolls, excl. 12– and 15 lb.	09130135	97.8	106.6	93.2	96.0	104.3	121.3	124.3	122.4
Other Bond	09130136	100.0	107.7	106.2	107.9	111.2	126.5	138.1	133.5
Other misc, free sheet, n.e.c.	09130137	99.2	112.2	100.9	103.9	110.6	131.6	140.9	138.8
Cover & text papers	09130148	102.1	111.0	112.0	115.5	122.6	131.9	138.7	139.7
Newsprint	09130291	95.9	102.3	105.3	103.3	112.3	127.6	122.5	119.6
Packaging and industrial converting	091303	99.4	105.4	104.3	106.9	116.0	125.7	134.5	135.8
Wrapping paper, unbleached kraft	09130301					N.A.	155.9	167.8	168.5
Wrapping paper, excl. unbl. kraft	09130302	100.8	105.9	106.6	107.0	109.2	116.0	124.7	131.0
Shipping sack paper, Unbl. Kraft	09130304	105.9	112.5	102.4	102.6	118.0	131.3	143.5	N.A.
Bag and sack paper, unbl. kraft	09130307	96.8	109.1	104.8	106.5	126.0	137.7	148.2	148.9
Bag and sack paper, exc. unbl. kraft	09130308	99.7	106.2	107.6	108.6	112.0	123.8	130.7	132.4
Packaging/ind. conv., unbl. kraft	09130311	98.0	105.2	102.3	102.7	117.9	132.2	142.8	143.4
Packaging/ind. conv., exc, unbl. kraft	09130312	99.0	103.4	103.2	104.3	109.9	114.0	122.3	122.9
Glassine, greaseproof and veg. parchment	09130314	102.3	111.3	111.7	123.2	131.4	138.3	142.8	142.7
Tissue paper Jun/83	09130323				N.A.	134.5	143.0	152.2	154.4
Special industrial paper	091304	98.7	105.8	103.7	105.5	108.2	118.3	132.7	132.6
Paperboard	0914	98.4	110.4	107.7	106.6	118.1	133.2	140.1	135.7
Corrugated paperboard in sheet & rolls	09140551	97.2	107.7	109.1	104.6	117.9	130.6	134.3	128.8
Paperboard, exc. corrugated **	091411	103.1	115.8	112.5	111.7	123.7	139.6	147.1	142.6
Unbleached linerboard **	09141101	105.0	122.4	116.5	116.3	135.3	161.3	165.3	155.2
Bleached pckg. & indus. conv. paperboard**	09141103	100.8	107.7	108.1	106.9	107.4	113.3	131.5	135.5
Semichemical paperboard **	09141104	103.8	121.3	112.7	110.0	133.2	150.1	151.9	137.1
Recycled paperboard **	09141105	101.7	109.2	108.5	107.7	114.3	124.1	129.0	128.7
Converted paper and paperboard products	0915	100.4	106.4	108.9	109.4	114.7	123.0	131.7	135.2
Sanitary paper products, inc. stock.	091501	102.1	103.4	106.6	108.1	109.0	115.0	126.0	135.3
Paper bags and shipping sacks	091502	99.0	110.5	111.9	116.9	126.0	141.1	154.0	156.6
Paper boxes and containers	091503	99.5	105.7	108.8	107.8	115.4	123.5	129.8	129.9
Gummed products	09150431	99.0	101.9	103.6	104.2	107.9	114.1	120.4	141.6
Office supplies and accessories	091506	101.2	107.5	106.3	106.1	108.3	114.9	121.6	121.4
Fiber and composite cans & rel. prod.	091507	106.5	110.7	114.7	115.1	117.1	123.5	133.9	147.8
Pressed and molded pulp goods Jun/85	091508			N.A.	101.3	101.8	N.A.	110.6	114.1
Misc. converted paper and board prod. Dec/84	091509		N.A.	100.4	100.7	103.2	N.A.	116.6	117.7
Pressure sensitive products Dec/82	0916	101.2	105.1	107.1	108.2	109.4	115.0	121.4	124.5
Building paper and building board mill prod	092	104.4	108.2	107.4	108.8	111.2	113.3	115.6	112.2
Publications, printed matter and printing mat.	093	106.3	112.7	118.7	123.3	128.1	134.7	142.1	148.4
All Commodities		101.3	103.7	103.2	100.2	102.8	106.9	112.2	116.3
Industrial Commodities		101.1	103.3	103.7	100.0	102.6	106.3	111.6	115.8

SOURCE: Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C.
N.A. – Not Available * Dec. 1986 = 100 ** Dec. 1982 = 100

TABLE XXXB
PRODUCERS PRICE INDEXES
FOR THE NET OUTPUT OF SELECTED INDUSTRIES AND PRODUCTS
PAPER AND ALLIED PRODUCTS
1984 – 1990

		Product Codes	Index Base	1984	1985	1986	1987	1988	1989	1990
PAPER AND ALLIED PRODUCTS	26		12/84	100.0	98.8	99.5	104.8	113.7	120.8	121.9
Pulp mills	2611		12/82	112.0	100.9	103.1	117.0	114.6	161.3	154.8
Primary products		2611–P	12/82	114.1	99.8	103.9	122.0	N.A.	169.4	163.3
Special alpha and dissolving woodpulp		2611–1	12/82	100.6	99.8	99.2	101.6	114.9	136.6	141.0
Other pulp, including pulpmill byproducts, except tall oil		2611–2	12/82	120.9	99.9	106.2	132.2	163.9	187.0	177.3
Woodpulp		2611–21	12/82	120.4	97.9	105.4	133.3	167.0	191.6	177.8
Bleached sulfate, hardwood		*2611–21341	12/82	120.0	97.1	106.0	134.4	167.6	197.3	190.3
Bleached sulfate, softwood		*2611–21342	12/82	125.3	104.8	109.0	129.2	166.0	185.7	165.6
Paper mill products except building paper	2621		6/81	110.0	109.5	110.4	115.7	127.6	134.6	134.0
Primary products		2621–P	6/81	110.3	109.9	110.9	116.1	127.8	134.6	134.4
Tissue paper and sanitary paper stock		2621–A	6/81	110.4	112.4	115.2	119.0	126.2	135.5	139.8
Sanitary papers, including stock, made in paper mills		*2621–A4	6/81	110.4	112.1	114.4	117.8	124.8	134.1	138.5
Newsprint		2621–1	6/81	107.0	110.1	108.0	117.4	133.0	127.7	124.7
Groundwood paper, uncoated		2621–2	6/81	106.9	108.3	108.7	113.0	120.0	124.6	124.2
Publication and printing		2621–211	6/81	106.2	107.8	108.1	112.7	120.7	124.3	122.9
Clay coated printing and converting paper		2621–3	6/81	117.1	123.6	121.3	121.0	133.6	138.9	137.9
Coated 2–sides		*2621–36	6/81	116.5	123.5	120.9	119.9	132.5	137.5	136.2
No. 3 coated 2–sides		*2621–363	6/81	117.2	122.6	122.7	123.9	131.7	137.6	138.0
No. 5 Coated 2–sides		*2621–365	6/81	113.5	123.9	117.6	109.6	127.2	131.2	128.6
Coated 2–sides except No.3 and No.5		*2621–366	6/81	117.3	123.5	121.7	122.4	131.8	137.5	137.6
Book paper, uncoated free sheet		2621–4	6/81	107.4	100.6	102.1	108.2	123.0	131.6	128.9
Chemical woodpulp writing paper, except body stock		2621–421	6/81	106.3	98.1	99.5	105.7	121.6	130.4	126.8
Unwatermarked bond, no. 4 grade		2621–42111	6/81	106.2	104.3	104.5	106.0	119.8	130.9	128.0
Watermarked bond		2621–4212	6/81				N.A.	133.6	141.6	142.1
Form bond in rolls, 15 lb.		2621–42155	6/81	103.7	92.8	92.6	101.2	116.2	120.3	117.9
Publication and printing grade free sheet		2621–441	6/81	107.7	102.2	103.3	108.7	119.9	127.7	125.8
Plain (inc M.F., E.F., supercalendered,egshell and antique gr		2621–44111	12/87					108.3	115.5	117.1
Offset		2621–44122	6/81	108.2	102.9	104.1	107.8	121.3	128.6	125.5
Cover and text papers		2621–465	6/81	117.5	118.6	122.2	129.8	138.6	146.8	147.9
Unbleached kraft packaging and industrial converting paper		2621–7	6/81	105.0	100.2	102.1	118.4	129.9	141.0	142.5
Wrappping		2621–711	6/81				N.A.	161.8	174.1	174.9
Shipping Sack		2621–731	6/81	107.3	97.7	97.9	112.6	125.3	136.9	N.A.
Bag and sack, other than shipping sack		2621–751	6/81	100.2	96.3	97.9	115.7	126.5	136.2	136.8
Other unbleached kraft packaging and industrial converting pa		2621–761	6/81	105.0	102.0	102.4	117.7	131.9	142.5	143.1
Packaging and industrial converting paper, except unbl. kraft		2621–8	6/81	110.2	111.1	115.6	121.5	128.1	135.4	136.1
Wrapping		2621–811	6/81	111.1	111.9	112.3	114.6	121.7	130.9	137.2
Bag and sack, other than shipping sack		2621–851	6/81	107.7	109.2	110.2	113.7	125.7	132.6	134.4
Other packaging and industrial converting, except unbl. kraft		2621–861	6/81	104.2	104.0	105.1	110.8	115.0	123.3	123.9
Glassine, greaseproof, and vegetable parchment		2621–881	6/81	114.8	115.2	127.0	135.5	142.6	147.2	147.2
Special industrial paper		2621–9	6/81	110.3	108.1	109.9	112.8	123.3	138.3	138.2
Paperboard mills	2631		12/82	116.3	112.0	113.1	126.5	141.7	149.9	146.2
Primary products		2631–P	12/82	115.2	112.2	111.3	123.1	138.9	146.2	141.9
Unbleached kraft Packaging and industral converting paperboar		2631–1	12/82	121.2	116.3	115.6	133.4	157.3	162.0	153.9
Unbleached Linerboard		2631–111	12/82	122.4	116.5	116.3	135.2	161.3	165.3	155.6
42 lb. kraft linerboard		2631–11101	12/82	122.6	119.9	117.9	138.3	159.8	163.8	154.7
Other unbleached linerboard		2631–11102	12/82	122.2	114.6	115.4	133.5	162.1	166.0	155.4
Bleached packaging and industrial converting paperboard		2631–2	12/82	107.7	108.1	106.9	107.4	113.3	131.5	135.3
Linerboard		2631–211	12/82	117.4	111.4	111.7	118.8	N.A.	134.1	128.2
Folding carton–type board		2631–241	12/82	107.5	105.9	104.1	105.5	111.6	128.2	133.6
Bleached paperboard for moist, liquid or oily foods		2631–26	12/88						111.5	113.9
Corrugating medium (semichemical)		2631–321	12/82	121.4	112.7	110.0	133.2	150.1	151.9	137.6
Recycled paperboard		2631–4	12/82	109.2	108.5	107.7	114.3	124.1	129.0	128.6
Linerboard (less than 80% virgin fiber)		2631–411	12/82	117.4	110.6	107.1	125.6	141.1	143.6	137.4
Container chip and filler board		2631–431	12/82	113.3	108.9	108.7	117.8	128.1	130.7	130.8
Folding carton board		2631–44	12/88						104.4	109.9
Unlined chipboard		2631–443	12/82	111.7	N.A.	110.7	111.5	N.A.	121.1	124.5
Kraft–lined folding carton board		2631–444	02/83					N.A.	124.8	125.3
White–lined folding carton board		2631–445	12/82	N.A.	107.9	106.7	106.7	116.2	120.6	120.8
Clay–coated folding carton board		2631–446	12/82	99.3	98.6	98.1	99.4	104.9	114.7	123.5
Other recycled paperboard		2631–48	12/82	111.9	112.8	112.9	116.6	122.2	100.9	101.7
Paper coating and glazing	2641		12/82	106.4	108.5	110.0	112.7	119.0	126.0	129.3
Bags, except textile bags	2643		12/83	107.6	108.5	112.3	120	135.4	148.3	150.3
Paperboard containers and Boxes	265		12/84	100.0	98.4	97.3	104.2	111.7	117.2	117.7

SOURCE: Annual Supplement to Producer Prices and Price indexes, Table 3, Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C.
N.A. – Not Available * Codes changed to 1988 categories

TABLE XXXI

GENERAL STATISTICS FOR THE PAPER AND ALLIED PRODUCTS INDUSTRY

1988

CODE	INDUSTRY GROUP & INDUSTRY	All Employees Number (000)	All Employees Payroll ($ Mil.)	Production Workers Number (000)	Production Workers Man-Hours ($ Mil.)	Wages ($ Mil)	Value Added by Manufacture ($ Mil)	Cost of Materials ($ Mil)	Value of Industry Shipments ($ Mil)	New Capital Expenditures ($ Mil)
26	PAPER AND ALLIED PRODUCTS	618.8	17,625.5	475.5	997.3	12,301.1	57,355.4	65,749.2	122,556.2	7,210.8
2611	Pulp Mills	14.4	559.5	11.2	23.9	413.1	3,116.5	2,159.5	5,260.1	309.2
2621	Paper Mills, exc. Bldg. Paper	130.4	4,773.0	101.1	215.1	3,533.4	16,866.2	16,782.1	33,545.8	3,299.5
2631	Paperboard Mills	53.6	1,964.4	41.1	90.8	1,450.1	8,775.5	7,340.6	16,094.2	1,517.5
265	Paperboard Containers and Boxes	194.4	4,837.7	149.1	309.4	3,166.3	10,193.9	18,136.4	28,193.4	833.4
2652	Setup Paperboard Boxes	8.8	135.2	7.5	14.8	91.8	249.0	218.0	464.4	5.9
2653	Corrugated, and Solid fiber Boxes	106.1	2,725.7	76.1	162.7	1,696.7	5,630.3	12,232.2	17,806.6	502.8
2655	Fiber Cans,Drums,Similar Prod.	12.4	239.7	10.2	21.0	213.0	650.9	984.9	1,630.9	28.2
2656	Sanitary Food Containers	16	356.5	12.8	25.8	260.4	891.4	1,302.4	2,193.4	79.9
2657	Folding Paperboard Boxes	51.1	1,330.6	40.5	85.3	904.4	2,772.3	3,398.9	6,098.1	216.6
267	Misc.Converted Paper Products	226.0	5,490.9	173.0	358.2	3,738.2	18,400.3	21,330.6	39,462.6	1,251.0
2671	Paper Coated and Laminated,Pkg.	15.5	434.5	10.9	23.5	276.3	1,018.9	1,648.4	2,640.1	85.2
2672	Paper Coated and laminated,n.e.c.	32.5	908.4	22.5	48.0	556.8	3,361.7	3,490.9	6,821.2	203.8
2673	Bags:Plastics,Laminated & Coated	36.2	790.1	29.3	61.1	554.3	2,349.0	2,748.7	5,058.0	201.6
2674	Bags:Uncoated Paper & Multiwall	17.2	364.7	14.5	29.6	281.7	934.5	1,808.8	2,731.8	87.4
2675	Die-cut Paper & Board	16.2	329.4	13.1	25.9	222.5	712.7	1,140.4	1,850.8	31.9
2676	Sanitary Paper Products	37.5	1,197.7	29.4	62.1	883.4	6,294.3	6,078.7	12,312.3	478.7
2677	Envelopes	27.5	628.4	20.8	42.9	421.1	1,253.1	1,537.5	2,769.4	66.9
2678	Stationery Products	12.4	215.9	9.5	18.2	144.8	598.1	724.9	1,280.4	19.3
2679	Converted Paper Products,n.e.c.	31.0	621.8	23.0	48.8	397.3	1,878.0	2,154.3	3,998.5	76.2

1987 R

CODE	INDUSTRY GROUP & INDUSTRY	All Employees Number (000)	All Employees Payroll ($ Mil.)	Production Workers Number (000)	Production Workers Man-Hours ($ Mil.)	Wages ($ Mil)	Value Added by Manufacture ($ Mil)	Cost of Materials ($ Mil)	Value of Industry Shipments ($ Mil)	New Capital Expenditures ($ Mil)
26	PAPER AND ALLIED PRODUCTS	611.3	16,859.8	465.7	972.1	11,776.2	50,488.8	58,753.1	108,988.7	5,752.5
2611	Pulp Mills	14.2	535.1	11.0	23.9	396.8	2,281.4	2,019.4	4,313.7	231.2
2621	Paper Mills, exc. Bldg. Paper	129.1	4,597.0	99.2	210.4	3,403.0	14,024.3	14,856.0	28,918.0	2,759.9
2631	Paperboard Mills	52.3	1,858.8	40.1	88.5	1,377.3	6,914.3	6,839.7	13,729.7	772.6
265	Paperboard Containers and Boxes	193.5	4,617.7	147.3	304.2	3,054.8	9,820.6	16,138.1	25,862.6	789.1
2652	Setup Paperboard Boxes	8.7	131.0	7.2	13.9	88.4	236.0	202.7	438.5	10.3
2653	Corrugated, and Solid fiber Boxes	105.7	2,609.2	77.2	160.3	1,637.6	5,475.6	10,685.9	16,104.0	468.8
2655	Fiber Cans,Drums,Similar Prod.	12.5	280.7	10.1	20.8	204.7	628.2	904.8	1,533.9	34.0
2656	Sanitary Food Containers	15.8	341.0	12.9	25.5	253.8	893.8	1,200.1	2,093.0	95.5
2657	Folding Paperboard Boxes	50.7	1,255.8	39.9	83.7	870.3	2,586.8	3,144.6	5,705.3	180.5
267	Misc.Converted Paper Products	222.2	5,251.1	168.2	345.1	3,544.3	17,448.3	18,900.0	36,164.8	1,199.7
2671	Paper Coated and Laminated,Pkg.	15.0	406.2	10.4	22.0	253.6	997.0	1,442.0	2,416.0	128.3
2672	Paper Coated and laminated,n.e.c.	30.9	838.7	21.1	43.5	502.4	2,861.4	3,034.5	5,891.7	201.3
2673	Bags:Plastics,Laminated & Coated	36.6	783.7	29.0	59.8	542.6	2,215.0	2,367.6	4,576.9	199.1
2674	Bags:Uncoated Paper & Multiwall	17.1	347.8	14.3	29.0	265.0	874.8	1,588.9	2,448.0	46.2
2675	Die-cut Paper & Board	15.7	307.8	12.5	24.9	205.3	680.8	1,086.1	1,749.3	33.4
2676	Sanitary Paper Products	38.4	1,155.0	29.9	62.5	880.5	6,309.3	5,500.9	11,698.4	430.5
2677	Envelopes	27.6	612.8	20.8	43.4	407.4	1,192.9	1,403.8	2,598.1	61.3
2678	Stationery Products	11.2	205.9	8.5	16.4	135.3	520.7	690.8	1,216.4	25.1
2679	Converted Paper Products,n.e.c.	29.6	593.1	21.5	43.5	372.0	1,796.3	1,785.3	3,570.1	74.5

Source: Department of Commerce, Bureau of the Census: 1988 Annual Survey of Manufactures.
R – Revised from 1987 Census of Manufactures report in 1988 Annual Survey of Manufactures.

SECTION V

SUPPLEMENT

Tables XXXII and XXXIII present data on production, imports, exports and new supply of wet machine board and total construction paper and board, for the years 1947 through 1990. The production data for 1982-1990 are API estimates; the other data are drawn from Bureau of the Census reports.

Table XXXIV shows data on imports from sources other than the Bureau of the Census, used in computing the new supply totals presented in Table VIII. Prior to 1989, the newsprint and printing-writing paper import data came from the Canadian Pulp and Paper Association and similar sources. As a result of the change to the Harmonized Code System for the collection of import and export data in 1989, and the decision by the Bureau of Census to use Statistics Canada data on imports from the United States as the U.S. export total to Canada starting in 1990, data on imports of most printing-writing papers in used to calculate new supply for 1989 and 1990 were drawn directly from the Bureau of Census. Imports of newsprint and groundwood papers, however, utilize Canadian Pulp & Paper Association data on shipments of these grades to the U.S., instead of the corresponding Census data.

Table XXXV reports similar data on exports. The data on paperboard exports for the years starting with 1968 are those reported by the API's Container and Kraft Paper Group as production for export. The Census data are presented in Table XII.

Table XXXVI is a new feature, highlighting the U.S. paper industry's structure, selected growth trends, and its relation to total economic activity. Some of the information is a summary of relevant data found in other parts of this report.

This section also includes an index to the report.

TABLE XXXII

WET MACHINE BOARD PRODUCTION, IMPORTS, EXPORTS AND CONSUMPTION

CENSUS DATA

1947 - 1990

(In Tons of 2,000 Pounds)

YEAR	Production	Imports	Exports	New Supply
1947	148,800	-	-	150,000
1948	142,134	-	-	142,000
1949	129,761	1,240	2,615	128,386
1950	164,611	2,136	3,266	163,481
1951	150,559	3,144	3,876	149,827
1952	140,175	2,242	3,318	139,099
1953	156,496	2,872	3,698	155,670
1954	135,910	3,349	3,420	135,839
1955	178,687	4,211	3,727	179,171
1956	146,589	3,492	3,998	146,083
1957	137,998	3,289	4,188	137,099
1958	121,103	4,566	3,884	121,785
1959	144,807	5,214	3,566	146,455
1960	174,992	4,517	2,791	176,718
1961	155,205	3,668	3,516	155,357
1962	145,625	4,905	5,312	145,218
1963	140,669	2,925	4,412	139,182
1964	147,880	10,403	4,884	153,399
1965	143,872	10,306	4,139	150,039
1966	148,098	5,537	4,811	148,824
1967	143,984	8,636	5,218	147,402
1968	154,794	11,146	4,318	161,622
1969	147,671	9,073	3,842	152,902
1970	139,055	9,308	4,614	143,749
1971	137,825	6,198	4,383	139,640
1972	147,914	4,204	5,642	146,476
1973	148,892	6,883	7,495	148,280
1974	143,862	5,899	11,287	138,474
1975	115,169	3,814	6,136	112,847
1976	129,955	6,988	6,617	130,326
1977	128,627	3,608	8,051	124,184
1978	136,337	2,614	7,554	131,397
1979	144,059	2,345	7,371	139,033
1980	137,649	2,118	8,017	131,750
1981	160,293	1,684	10,812	151,165
1982	129,000 E	1,842	11,089	120,000 E
1983	140,000 E	3,584	11,624	132,000 E
1984	140,000 E	2,826	13,782	129,000 E
1985	130,000 E	3,270	13,380	120,000 E
1986	130,000 E	3,235	18,893	114,000 E
1987	120,000 E	3,463	17,328	106,000 E
1988	100,000 E	4,239	11,691	93,000 E
1989	100,000 E	606	2,889	97,800 E
1990	100,000 E	1,132	487	101,000 E

SOURCE: Production - Department of Commerce, Bureau of the Census, Industry Division; Current Industrial Reports: Pulp, Paper and Board, Annual Issues.
Imports and Exports - Foreign Trade Division, Department of Commerce.
E - Estimated by American Paper Institute.

TABLE XXXIII

CONSTRUCTION PAPER AND BOARD PRODUCTION, IMPORTS, EXPORTS AND CONSUMPTION

CENSUS DATA

1947 - 1990

(In Tons of 2,000 Pounds)

YEAR	Production	Imports	Exports	New Supply
1947	2,047,763	32,923	35,406	2,045,280
1948	2,227,217	30,695	23,277	2,234,635
1949	1,773,573	22,541	28,090	1,768,024
1950	2,263,617	30,677	24,019	2,270,275
1951	2,303,538	29,057	30,223	2,302,372
1952	2,197,763	27,545	24,343	2,200,965
1953	2,322,275	26,177	25,871	2,322,581
1954	2,436,002	21,228	28,355	2,428,875
1955	2,698,344	28,944	30,580	2,696,708
1956	2,530,407	29,429	33,650	2,526,186
1957	2,317,701	19,040	31,800	2,304,941
1958	2,446,375	23,073	25,613	2,433,825
1959	2,605,831	27,698	28,250	2,606,279
1960	2,507,763	18,090	28,137	2,497,716
1961	2,474,304	11,168	31,430	2,454,042
1962	2,508,987	16,076	27,187	2,497,876
1963	2,591,639	28,851	26,304	2,594,186
1964	2,747,582	44,359	28,539	2,763,402
1965	2,822,203	29,471	29,463	2,822,211
1966	2,649,808	25,945	33,720	2,642,033
1967	2,679,398	26,591	26,539	2,679,150
1968	2,906,986	28,856	33,957	2,911,885
1969	2,955,112	39,362	42,837	2,951,637
1970	2,812,345	48,875	32,843	2,828,377
1971	3,282,908	81,262	37,673	3,326,497
1972	3,444,014	104,385	44,335	3,504,064
1973	3,404,880	105,558	54,385	3,456,053
1974	3,140,084	88,701	66,242	3,162,543
1975	2,864,353	84,363	59,575	2,889,141
1976	3,205,761	93,155	62,006	3,236,910
1977	3,255,141	135,274	50,270	3,340,145
1978	3,339,792	329,594	63,850	3,605,536
1979	3,130,601	382,883	54,642	3,458,842
1980	2,420,112	473,679	57,662	2,836,129
1981	1,989,203	396,496	68,832	2,316,867
1982	1,533,000 E	419,515	47,833	1,905,000 E
1983	1,660,000 E	473,667	55,746	2,078,000 E
1984	1,660,000 E	496,830	63,890	2,093,000 E
1985	1,570,000 E	413,196	55,429	1,927,800 E
1986	1,470,000 E	336,409	75,149	1,731,000 E
1987	1,470,000 E	305,985	90,024	1,686,000 E
1988	1,400,000 E	318,206	120,185	1,668,000 E
1989	1,470,000 E	189,119	33,388	1,626,000 E
1990	1,470,000 E	140,110	9,384	1,601,000 E

SOURCE: Production - Department of Commerce, Bureau of the Census, Industry Division; Current Industrial Reports: Pulp, Paper and Board, Annual Issues.
Imports and Exports - Foreign Trade Division, Department of Commerce.
E - Estimated by American Paper Institute.

TABLE XXXIV

IMPORTS

1960 - 1990

(000 Tons)

YEAR	Newsprint	Uncoated Groundwood Papers	Coated Papers	Uncoated Free Sheet Papers	Thin Papers	Bleached Bristols	Total Printing/ Writing
1960	5,426	39.5	0	1.8	3	0.5	44.8
1961	5,382	35.9	0	3.4	3	0.5	42.8
1962	5,415	41.5	0	3.8	3	0.4	48.7
1963	5,398	77.2	0	5.3	3	0.5	53.0
1964	5,908	70.6	0	11.2	7	0.5	89.3
1965	6,349	98.1	0.9	10.7	9	0.4	119.1
1966	6,884	132.9	0.9	14.2	11	0.3	159.3
1967	6,546	147.5	1.4	34.7	13	0.5	197.1
1968	6,391	136.8	1.3	13.4	12	0.3	163.8
1969	6,724	216.9	3.3	15.4	10	0.4	246.0
1970	6,477	232.9	3.5	48.9	8	0.4	293.7
1971	6,463	244.2	4.7	108.5	7	0.5	364.9
1972	6,758	225.1	4.5	93.3	6	0.5	329.4
1973	7,236	237.1	12.3	120.2	15	1.0	385.6
1974	7,452	321.3	16.3	138.9	18	3.5	498.0
1975	5,522	264.0	4.7	86.9	9	0.7	374.3
1976	6,308	338.1	15.5	133.9	12	0.6	500.1
1977	6,339	443.2	111.6	155.3	13	17.0 #	740.1
1978	7,102	610.7	213.7	112.7	7.3	15.9	959.7
1979	7,168	694.5	188.7	141.7	14.9	16.2	1,053.8
1980	6,880	688.1	114.8	119.0	6.3	14.2	941.3
1981	6,725	650.0	39.0	119.5	12.0	7.9	827.5
1982	6,202	665.1	69.1	157.0	11.3	14.6	917.1
1983	6,651	991.8	162.4	222.8	20.3	19.7	1,417.0
1984	7,378	1,393.4	428.4	459.0	46.4	24.1	2,351.3
1985	7,635	1,475.7	496.2	379.3	23.7	22.5	2,397.4
1986	7,686	1,595.1	501.2	476.2	45.4	28.3	2,646.2
1987	8,189	1,753.2	674.4	433.0	47.6	28.0	2,936.2
1988	8,115	1,911.8 R	797.7	616.1	55.8	51.5	3,432.9
1989	7,664	1,873.3	774.0	583.4	12.7	59.1	3,302.5
1990	7,261	1,982.1	936.0	752.4	14.3	67.4	3,752.3

SOURCE: Newsprint - Canadian Shipments to U.S., CPPA; Other Country Imports to U.S., U.S. Bureau of Census
Uncoated Groundwood - Imports from Canada, CPPA;
Imports from other countries, Bureau of the Census, adjusted by Printing/Writing Division of API.
Uncoated Free Sheet Papers - Bureau of the Census, adjusted by Printing/Writing Division of API.
Coated Papers - Bureau of the Census.

NOTE: Imports used to compute new supply for Table VIII.
Series revised to include cut size paper.
R - Revised.

TABLE XXXV

EXPORTS

1960 - 1990

(000 Tons)

YEAR	Uncoated Groundwood Papers	Coated Papers	Uncoated Free Sheet Papers	Thin* Papers	Cotton Fiber Papers	Bleached Bristols	Total Printing/ Writing	Unbleached Kraft Paperboard	Semichem. Paperboard	Bleached Paperboard	Recycled Paperboard
1960	8.6	26.1	38.2	15.0		0.8	88.7	381.0	31.0	23.0	46.0
1961	10.2	21.7	34.6	15.0		0.9	82.4	407.0	62.0	32.0	60.0
1962	9.1	24.3	31.3	15.0		1.3	81.0	445.0	44.0	33.0	55.0
1963	11.1	27.1	30.1	14.0		1.7	84.0	517.0	83.0	39.0	53.0
1964	13.1	36.6	34.4	16.0		1.9	102.0	765.0	107.0	45.0	71.0
1965	3.2	48.5	29.0	29.0		0.0	109.7	905.0	55.0	47.0	32.0
1966	3.8	49.6	30.6	32.0		0.0	116.0	1,016.0	64.0	59.0	27.0
1967	4.4	46.8	27.3	31.0		0.0	109.5	1,174.0	76.0	61.0	23.0
1968	7.9	57.1	31.9	47.0		0.0	143.9	1,380.7	94.0	108.5	12.9
1969	6.1	70.0	35.3	56.0		0.0	167.4	1,682.8	52.4	108.1	16.8
1970	7.3	75.2	41.3	58.0		0.0	181.8	1,683.4	84.3	114.4	17.3
1971	9.9	72.2	46.2	74.0		0.0	202.3	1,834.3	104.0	156.5	20.6
1972	17.6	76.2	50.6	68.0		0.0	212.4	1,887.5	111.7	217.8	14.4
1973	29.7	80.6	65.0	87.0		0.0	262.3	1,596.7	107.4	280.3	30.8
1974	53.3	98.8	100.4	106.0		0.0	358.5	1,582.7	145.5	320.2	101.0
1975	74.7	122.8	119.8	80.0		0.0	397.3	1,058.0	115.4	256.2	23.8
1976	70.6	106.7	147.3	102.0		0.0	426.6	1,247.3	119.3	306.1	36.5
1977	54.1	98.9	111.4	76.0		0.0	340.4	1,289.6	121.9	389.4	29.5
1978	58.1	73.7	84.9	26.5	12.2	10.7	266.4	1,466.3	119.2	432.9	21.5
1979	80.4	73.5	68.1	32.4	10.9	9.2	274.2	1,645.9	98.2	496.7	21.8
1980	101.0	92.8	88.3	33.8	16.6	8.8	341.3	2,379.9	322.3	549.6	82.6
1981	119.7	88.6	116.7	42.7	9.2	6.4	383.3	1,886.5	155.2	556.4	23.8
1982	55.9	81.4	70.6	27.7	6.6	4.4	246.6	1,931.5	184.9	524.7	12.7
1983	37.5	79.2	59.3	17.6	4.8	3.7	202.1	2,280.7	192.6	514.4	24.3
1984	30.2	85.6	65.5	14.0	5.0	3.0	203.3	2,086.4	149.2	478.3	17.4
1985	36.7	82.5	64.4	13.3	4.3	1.4	202.6	1,830.0	189.4	465.6	26.3
1986	40.9	78.0	50.0	14.5	4.5	2.4	190.3	2,236.6	212.5	568.7	70.?
1987	55.7	100.7	67.9	18.4	4.1	2.1	248.9 R	2,302.8	192.5	618.9	75.4
1988	70.0	97.2	82.7	28.1	6.0	2.6	286.6 R	2,295.7	136.3	627.7	72.0
1989	88.0	168.4	122.6	51.8	0.7	46.8	478.3 R	2,363.0	137.6	693.4	38.0
1990	75.3	218.7	232.4	62.9	0.4	75.2	664.8	2,690.7	142.5	732.5	49.3

SOURCE: Paper Grades - Bureau of the Census; Printing/Writing Paper Division compilation.
Paperboard Grades - 1960 - 1967, Bureau of the Census; 1968 - 1990, API (See Table VII).

NOTE: Exports used to compute new supply for Table VIII.
R - Revised.
* - Includes Cotton Fiber Papers, 1960-1977.

TABLE XXXVI
THE PAPER AND ALLIED PRODUCTS INDUSTRY
IN THE UNITED STATES

Value of Shipments ($ Billion) – 1990	$131.1
Percent of All Manufacturing Shipments – 1990	4.6%
Percent of GNP – 1989	0.9%
Exports (Million Tons) – 1990	19.4
Exports ($ Billion) – 1990	$9.1
Value of Exports as Percent of Total U.S. Merchandise Exports – 1990	2.3%
After Tax Profits ($ Billion) – 1990	$4.9
After Tax Profits as Percent of Sales – 1990	4.2%
Capital Investment ($ Billion) – 1981 – 1990	$92.0
Of Which Pollution Abatement	$4.9
Percent Growth Capital Investment – 1981 – 1990 #	177.8%
Capital Invested Per Employee ($ 000)	$98.3
Capital Expenditures as Percent of Sales – 1981 – 1990	10.6%
Paper and Paperboard Production (Million Tons) – 1990 Prelim.	78.8
Paper & Paperboard Capacity (Million Tons) – 1990	84.0
Percent of World Capacity – 1989	30.1%
Percent of U.S. Capacity That Is Less Than 10 Years Old – 1989	60%
Number of Paper and Paperboard Mills – 1989	538
Number of States with Wood Pulp, Paper or Paperboard Mills	42
Number of Employees (000) – 1990	699
Employee Costs ($ Billion) – 1990	$27.5
Output Per Employee Man–hour at Wood Pulp, Paper and and Paperboard Mills: Percent Change – 1980 – 1990	37.0%
Recovered Paper Consumption (Million Tons) – 1990	21.8
Recovered Paper Recovery Rate – 1990	33.6%
Paper and Paperboard Mills:	
Recovered Paper Consumed as Percent of Production – 1990	27.1%
Secondary Fibers Consumed as Percent of Total Fibers – 1990	54.2%
Pulp, Paper and Paperboard Mills – 1990	
Energy Consumption (Quadrillion BTU's)	2.43
Of Which Percent Self–Generated & Residue Fuels	56.0%
Percent of Total U.S. Energy Consumption	3.0%

Capital Investment by Paper and Allied Products Companies grew 3.6 times faster than that of All Manufacturing in same time period.

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